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Structured Multifaceted Cognitive Behaviorally Oriented Assessment and Treatment of Nonadherence to Medical Advice : a Case Study

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Philadelphia College of Osteopathic Medicine
Department of Psychology

STRUCTURED MULTIFACETED COGNITIVE BEHAVIORALLY ORIENTED
ASSESSMENT AND TREATMENT OF
NONADHERENCE TO MEDICAL ADVICE: A CASE STUDY

By: Cheryl A. Patchin

Submitted in Partial Fulfillment
of the Requirements for the Degree of

Doctor of Psychology

March 2002

**PHILADELPHIA COLLEGE OF OSTEOPATHIC MEDICINE
DEPARTMENT OF PSYCHOLOGY**

Dissertation Approval

This is to certify that the thesis presented to us by Cheryl A. Patchin on the 17 day of JANUARY, 2002, in partial fulfillment of the requirements for the degree of Doctor of Psychology, has been examined and is acceptable in both scholarship and literary quality.

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ABSTRACT

The incidence of nonadherence to medical advice is estimated to be as high as 98%, with a typical range of 30% to 60%. This case study focused on the assessment and treatment of a patient suffering from uncontrolled essential hypertension, who was inconsistent in her adherence to the prescribed medical regimen and who demonstrated a significant health risk as a result. From baseline (pretreatment) to termination (follow-up), the patient attended a total of 9 sessions over a 12-week period. Assessment involved clinical interviews and an original self-administered instrument, the Health Behavior Profiling Questionnaire (HBPQ). The HBPQ was designed to assess the multitude of possible causes that contribute to nonadherence, especially directed to patients with chronic disease. The treatment plan was developed based on the identified problems and upon the unique circumstances and characteristics of the individual patient. Cognitive-behavioral techniques, combined with other indicated and empirically validated psychotherapeutic modalities, provided an effective treatment regimen. The patient increased her adherence and achieved a normal and stabilized blood pressure. Her mean blood pressure readings decreased 16.87% systolic and 19.78% diastolic from baseline to follow-up. The positive outcome in this case points to the potential efficacy of an individualized treatment package based on an individually administered assessment procedure. The assessment procedure utilized in this case study could potentially be utilized with any patient suffering from chronic illness where nonadherence with the medical regimen is either suspected or founded. Research regarding the reliability and validity of the HBPQ is required.

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CASE SUMMARY

CHAPTER 1

INTRODUCTION

The case summary concerns the assessment and treatment of a patient who suffered from essential hypertension. She met the criteria of being nonadherent to medical advice concerning treatment of this chronic condition. In this section, the author will briefly review the problem of hypertension and nonadherence, describe the recruitment of a case, discuss the assessment process, and present the conceptualization of the clinical problem. The development of treatment goals and intervention strategies are also described and, in addition, a detailed overview of the treatment model developed by Meichenbaum and Turk (1987) is provided.

Hypertension is high blood pressure, where pressure in the arteries is consistently above the normal range. Blood pressure is recorded as two numbers, systolic over diastolic. The measures used are millimeters of Mercury, or mmHg, and the instrument typically used to measure arterial blood pressure indirectly is a sphygmomanometer (Taber, 1993). According to national guidelines, high blood pressure is a consistently elevated pressure of 140 mmHg systolic or higher and/or 90mmHg diastolic or higher. No one knows exactly what causes primary hypertension. A great danger of hypertension is that signs and symptoms of hypertension are usually not noticeable to the individual (American Heart Association, 1994).

More than 50 million people in the United States are diagnosed with hypertension (Leidy et. al., 2000). According to Merck (1999), 24% of the US population is

hypertensive (about 43 million people). African-Americans are much more likely to develop hypertension than Caucasians (Searle, 1998). Nearly half of the African-American population is affected by age 65, making this population among the groups at highest risk for the condition (Leidy et. al., 2000). Serious health consequences are more common in African-Americans. They are more likely to have heart failure, strokes, and kidney failure related to hypertension (Merck, n.d.). Another statistic of note is that “women have high blood pressure more often than men, but normally do not show any symptoms of cardiovascular disease until after menopause” (Searle, 1998).

Nonadherence to medical advice is a very common and serious problem that affects the health outcome for the patient. The hypothesis that determined the present case study is that the belief system, the issues, and the dysfunctional thoughts associated with nonadherence to medical treatment regimens can be systematically and clearly identified. The author developed and conducted a health profile, then processed and analyzed the health profile data. The outcome provided insight into the relationship between factors such as what the patient believed about her health, the prescribed treatment, and her adherence to medical regimens and, subsequently, informed the development of treatment interventions. Once these issues had been clearly and systematically identified, evaluated, and understood, the clinician was able to formulate a plan for restructuring or altering the individual’s belief systems around these medical nonadherence issues, and thereby increase compliance. In addition to beliefs, interpersonal, environmental, and situational issues were considered and evaluated and also incorporated into the case conceptualization and remedial treatment plan. The assessment procedure involved both a self-administered questionnaire and face-to-face

interviews. The combining of methods (self-administered profiling questionnaire and personal clinical interviews) helped maximize the quality of the case conceptualization and subsequent intervention strategies.

A patient was recruited from a primary care medical clinic (see “Letter to Physician,” 11/8/99 Appendix A). The referring physician, Dr. K.B., had been practicing family medicine since 1969. He first incorporated this primary care clinic in 1970, where he had continuously served the same community. He is an African American physician serving a primarily African American population. The author had been providing mental health services at this facility since 1983. The physician was asked to refer a patient with a fairly specific profile: a patient with a common chronic medical condition such as hypertension, asthma, diabetes, or hypercholesterolemia, who is not following the prescribed treatment recommendations (for medication, diet, lifestyle, etc.), and who demonstrates risk to health as a result. The medical conditions had to be chronic and serious, but manageable. Additionally, the patient was not to be manifesting or reporting any significant Axis I or Axis II disorders which could confound the variable of interest. Ideally, the patient studied would have the following diagnoses across the five DSM-IV axes (American Psychiatric Association, 1994):

Axis I	V15.81 Noncompliance with Treatment
Axis II	V71.09 No diagnosis
Axis III	A general medical condition *
Axis IV	Psychosocial and Environmental Problems – to be identified and recorded

Axis V GAF – (current). The patient profile will include individual in upper ranges regarding psychological, social, and occupational functioning (i.e., 70 to 100 range).

Another inclusion criterion was that the patient must be 18 years of age or older. Finally, the patient had to be capable of reading and comprehending at an 8th-grade school level at least (in order to complete the self-report, self-administered profiling questionnaire).

In response to the clinician's request for an appropriate referral, Dr. K.B. referred a 43-year-old African-American female. She presented as a highly functional, married college graduate with an independent adult son. She worked as an administrative assistant with long hours and significant responsibilities. The patient suffered from hypertension, a condition that was first diagnosed in March of 2000. Hypertension is her only medical problem. She manifested no Axis I or Axis II psychiatric disorders apart from Noncompliance with Treatment.

The patient's hypertension was not controlled and she was inconsistent in her adherence to the prescribed medical regimen. The physician, at that time, had given the patient the option of dietary adjustments and exercise (with the recommendation of at least one hour of exercise three times per week) or anti-hypertensive medication. The patient had strong objections to commencing a medication regimen and selected the diet and exercise as the first treatment intervention, with the understanding that medication would have to be instituted, if necessary. The patient stated that she was, at that time, unable to carry out the exercise routine necessary to lower/stabilize her blood pressure.

It was the understanding of the referring physician that the clinician would pursue the assessment of this patient in order to determine obstacles to compliance and stabilization of the disease, develop a treatment plan in collaboration with the patient and the physician, and then begin treatment.

After the assessment phase of the study, a profile of the patient and the issues affecting adherence were presented to the referring physician and verbal feedback was given to the patient (Session 3). In addition to the identification of the problems/issues, the clinician developed intervention strategies to address these identified problems. The physician was provided with specific treatment recommendations necessitating implementation by the health care providers, the clinician, and/or the patient. In conjunction with the clinician, the patient was asked to participate in the development of treatment goals, plans, and implementation of intervention strategies.

Assessment

Three assessment sessions (which included one feedback session) with six treatment/intervention sessions were provided. Initially, the patient was oriented to the purpose and content of the study, with the consent material reviewed and with consent obtained (See Informed Consent Form and Consent for Taping Sessions form, Appendix B). A comprehensive psychosocial and medical history was completed. This evaluation included medical information obtained from the physician, the patient's medical chart, and from the patient herself. This information included a history of the presenting problem. Additionally, the initial assessment ruled out Axis I or Axis II confounding disorders (including addiction behaviors) that would have precluded short-term treatment efficacy. This data gathering took place during the first assessment session.

DSM IV Diagnosis

The case study individual's DMS IV diagnoses were as follows:

Axis I	V15.81 Noncompliance with Treatment
Axis II	V71.09 No diagnosis
Axis III	401.9 Hypertension, essential
Axis IV	Health problems in family; stressful work schedule
Axis V	GAF = 85 (current)

At the completion of the psychosocial evaluation, the patient was given the original Health Behavior Profiling Questionnaire (HB PQ) to complete (see Health Behavior Profiling Questionnaire, Appendix D). This instrument is a series of nominal, dichotomous responses, closed-ended yes/no questions. The questions include objective questions about the respondent's characteristics of behavior, subjective questions about her attitudes toward or knowledge about the issues, and questions about her perceived or clinically evaluated health status. It also includes questions related to resource and relationship variables. After the patient completed this questionnaire and returned it to the clinician, it was analyzed. The responses were flagged, collapsed into categories, and utilized for further probing of the relevant variables. For example, the therapist flagged questions number 52 through 56 (see Appendix D). These responses all correlated with beliefs about chronicity. The patient answered all of these questions related to her health status in a manner suggesting that she did not believe that she had a chronic medical problem. Therefore, a potentially critical area of misinformation or dysfunctional belief on the part of the patient had been revealed.

A structured clinical interview took place during the second session and was developed in conjunction with the self-administered screening instrument. The interview consisted of probes to clarify, qualify, and quantify information regarding the variables that were identified in the self-report procedure and were geared to “pull” for information regarding overt behavior related to nonadherence, as well as issues, beliefs, and thoughts that may be driving the behavior.

The Proposed Empirical Study section (Chapter 6) includes details regarding the development of the new measure (the self-administered screening instrument) related to medical treatment nonadherence. This questionnaire is intended to precede and supplement the clinical interview in “pulling” for items related to beliefs and experiences that drive the nonadherence.

Conceptualization

The clinical problem of interest, patient nonadherence to medical treatment, is multifaceted and potentially complex. Nonadherence may be caused by one simple issue (such as cost of medication), a single complex issue (e.g., a distrust and resistance to anyone in a professional authoritative position – a trait characteristic of the individual), or a combination of variables, including stable, long-standing aspects of functioning (i.e., trait) and transient short-lived or episodic characteristics (i.e., state).

Generally, nonadherence is a behavior, one that can be operationally defined and measured in terms of overt behaviors (Haynes, 1979). The underlying issues that drive this behavior can also be defined and measured and serve as the basis for designing interventions (Blackwell, 1996; Haynes, 1979; Meichenbaum & Turk, 1987; Millon, 1997; Sung et. al, 1998; Taber, 1997). It is the development of a valid, reliable

assessment that precedes the development of effective treatment goals and intervention. It is at the stage of case conceptualization that the utility of the assessment procedure can begin to be functionally demonstrated.

Treatment Goals and Intervention

The actual treatment and interventions are based on addressing the beliefs and impediments that have been identified in the assessment process. This treatment is provided upon request of the physician and the patient after they both have received formal feedback regarding assessment findings and treatment recommendations and have agreed to participate in the intervention stage of the study.

The treatment interventions were derived from various clinically and empirically sound models. The Medical Model, for example, is most appropriate to provide interventions to be employed with medication side effect issues. Cognitive-behavioral techniques are tailored to the individual and include techniques such as offering relevant education, homework assignments such as monitoring and documenting health indicators, setting proximal performance goals, and in-office and home-based stress management techniques (Meichenbaum & Turk, 1987). These techniques and others are timed and staged so that the interventions are developed and implemented in keeping with the format of the Transtheoretical Theory (Bayer Institute for Health Care Communication, 1996; Prochaska, DiClemente, & Norcross, 1992). The Literature Review portion of the dissertation (Chapter 5) will survey the most viable theories/models in terms of their respective and combined clinical applicability and then relate them to clinical practice. A multi-modal or integrated treatment plan is derived and utilized in this case study.

Once this clinician determined, through the comprehensive assessment process, which specific impediments to adherence existed within each of the five general domains (patient characteristics, health status, treatment regimen, patient-provider interaction, and environment), a treatment plan was developed based upon the identified problems and upon the unique circumstances and characteristics of the individual patient. Many experts in the field of health psychology and health education concur about the need for a broad-spectrum approach to treating nonadherence to medical advice. Interventions must be targeted to specific needs. Different combinations/permutations of issues require different strategies (Bayer Institute for Health Care Communication, 1996; Glanz, Lewis, & Rimer, 1990; Levy, 1987; Meichenbaum & Turk, 1987; Rosenstock, 1990; Sarafino, 1998). “Because of the complexity and multi-determined nature of treatment nonadherence and the heterogeneity of the patient population, there is an increasing recognition that integrative interventions are required” (Meichenbaum & Turk, 1987, p.235). Blackwell (1996) states that multiple or combined interventions demonstrate benefits in the range of 20% to 30% over controls.

In their classic text, Meichenbaum and Turk (1987) present a summation and catalogue of the various general adherence enhancement interventions. Their text on facilitating treatment adherence addresses the range of techniques variously referred to as “multi-modal,” “integrative,” or “contextual.” Meichenbaum and Turk’s (1987) approach to treatment was adopted for this case study based on its comprehensive, multi-modal nature and its consistency. Additionally, Meichenbaum and Turk conceptualize adherence problems as breaking down into the same basic dimensions as those in the

HB PQ (i.e., patient characteristics, health status, treatment regimen, patient-provider interaction, and environment).

Meichenbaum and Turk (1987) provide recommendations regarding specific treatment practices designed to enhance adherence, and these interventions center around the following targets:

I. Enhancing the relationship between the patient and the health care provider (HCP).

Under this category, recommendations were offered to the HCP regarding the communication process with the patient. Examples of specific recommendations include:

1. Consider the patient's ideas about adherence.
2. Discuss possible barriers to adherence.
3. Discuss the rationale for the treatment program.
4. Engage the patient as an active participant in the decision-making process (e.g., negotiation and collaboration).
5. Conduct clinically sensitive inquiry regarding expectations, representations, history, etc.
6. Ensure clarity of treatment regimen presentation.
7. Assess patient self-efficacy ratings for performance of desired behavior(s).
8. Ask explicit adherence questions such as those related to side effects, administrative problems, memory problems, etc.
9. Create a trusting relationship.
10. Foster good rapport by way of numerous rapport-building measures.

11. Be informative/instructive.
12. Foster understanding.
13. Foster satisfaction.

II. Patient Education

Meichenbaum and Turk (1987) state that lack of knowledge about one's medication regimen or treatment program is more of a major factor in accounting for nonadherence than lack of information about the disease. Also, the attitudes and beliefs of patients regarding treatment, side effects, drug dependency, etc. are important factors, in addition to technical information. Patients must be educated about benefits and consequences related to adherence.

There are multiple findings as to how the impediments to the implementation of an effective treatment regimen can be addressed. For example:

- Patients forget much of what HCPs convey. Therefore, the patient can be instructed to write down information.
- Jargon should be minimized for improved comprehension and the literacy level of the patient should be considered in providing written information.
- Prescribing information should be very explicit to increase limited comprehension.

In general, it is recommended that the HCP "customize any instruction individually to the level and needs of the patient. The wording, pacing, and manner with which HCPs convey information are critical" (Meichenbaum & Turk, 1987, p. 116).

In reference to treating chronic disorder by means of medication, a key factor is the emotional state and needs of the patient, “the stage of the disorder and the state of the patient in coming to terms with his or her condition and its implications” (Meichenbaum & Turk, 1987, p. 119).

Meichenbaum & Turk (1987) provide extensive research-based educational guidelines for the HCP to utilize regarding the treatment regimens (see Table 19, pp. 127 – 129) and when giving information (see Table 20, pp. 131-132). Specific issues related to patient education are also addressed in more detail and techniques are recommended to address these issues. In summary, these factors are: simplify and customize the treatment regimen; reduce the patient’s forgetfulness (e.g., memory prompting techniques); and discuss possible side effects of the treatment.

III. Behavior Modification Approaches

HCPs and clinicians must specify desired behavior changes and determine, via situational analysis, the relevant antecedents (both internal and external) of when the target behavior occurs. The consequences and expected consequences of a behavior also influence the future occurrences. Environmental contingencies can be arranged so that rewards for appropriate behavior and negative consequences for inappropriate behavior are structured in a contingency management program. Additionally, it is imperative to take into consideration that patients will require “the necessary skills and resources to engage in adherent behavior” (Meichenbaum & Turk, 1987, p. 152).

Some of the primary behavior modification techniques recommended include:

1. Self-monitoring (e.g., enlist patients as collaborators, training patients in self-monitoring, choice-giving, reinforcement of effort, and checking for accuracy).
2. Goal setting (e.g., establishment of negotiated, individualized and self-determined goals, giving rapid performance feedback, setting proximal goals, setting specific goals, providing a choice of treatment alternatives, involving significant others, setting moderate expectations, teaching self-regulatory techniques, provision of meaningful rewards, systematic record-keeping and encouragement of patient self-attribution).
3. Corrective feedback (e.g., systematic feedback includes training via observational learning and modeling, behavioral rehearsal and social reinforcement).
4. Behavioral contracting (This negotiated contract is an explicit commitment with contingency consequences. It involves formalized goal setting with reinforcements and should include patient choice, control and involvement).
5. Commitment enhancement procedures (e.g., public commitment, specificity of the commitment or intention statement, choice-giving to patient, salient cues and self-attributions).
6. Reinforcement procedures (e.g., reward procedures, negative consequence procedures, self-reinforcement procedures, involving others in reward procedures, and teaching the patient reinforcement principles and procedures).

A major concern regarding the various reinforcement programs is that once one removes the contingencies, behavior change and improved treatment adherence discontinues. The support from the social environment and the patient's intrinsic motivation must be maintained. Therefore, follow-up (booster) interventions, support groups, and increasing skills training to develop self-regulatory skills are necessary.

IV. Self-Regulatory Skills

Teaching self-regulatory skills is critical to maintain continuance of any positive treatment effects upon withdrawal from treatment interventions. The collaborative HCP-patient relationship and self-regulatory skills such as self-control of medication, planning and problem-solving skills, intrapersonal and interpersonal skills, relapse prevention and attribution retraining all contribute to successful maintenance. Self-help skills, of course, must be offered patients who have the capacity to acquire them, to benefit from them. The patient's self-efficacy is an additional requisite. Patients can benefit from inoculation against backsliding in adherence situations by learning techniques such as rehearsing coping with high-risk situations, and by participating in problem-solving self-control-oriented relapse prevention programs. Another efficacious strategy can be the use of the decisional balance sheet format, where gains and losses or pros and cons are tallied. Intrapersonal and interpersonal skills include explicit social skills training (e.g., assertiveness skills, refusal skills, coping strategies and skills, and problem-solving), behavioral rehearsal, and role-playing.

Meichenbaum and Turk (1987) endorse the Relapse Prevention (RP) model put forth by Marlatt and his colleagues (Marlatt & Gordon, 1985) in relation to coping and benefiting from lapses. Long-term maintenance requires skills that take setbacks into account. Relapse Prevention involves the anticipation, preparation, and coping strategies necessary to deal with lapses (i.e., slips, setbacks, backsliding, and failure). High-risk situations can be identified (anticipated), planned for, and learned from. Intrapersonal and interpersonal skills are needed to handle such situations. These skills can be taught via several modalities; such as, videotape demonstrations, modeling, behavioral and imagery rehearsal, role-playing, corrective feedback, etc.). Patient self-reliance is gradually increased. An attributional style that fosters external environmental (in addition to the internal) factors facilitates successful coping with lapses. “Lapses must be viewed as constructive instrumental learning experiences and as a problem to be solved” (Meichenbaum & Turk, 1987, p. 198).

Attribution Retraining

Patient self-confidence or self-efficacy is the “belief one can respond effectively to a situation by using available skills” (Meichenbaum & Turk, 1987, p. 200). Self-efficacy must be added to a positive outcome expectancy (the belief that the treatment will be effective to achieve the desired goals) to produce long-term success. The patient is encouraged to attribute successes to themselves (self-attribution).

Other Interventions

Meichenbaum & Turk (1987) consider other adherence enhancement procedures beyond those derived from behavior modification and self-regulatory perspectives. Emotional inducements (e.g., fear messages, guilt inducements and positive emotions), emotional role playing (videotape self-confrontation, role reversals, psychodrama, etc.), social support (home visits, educational groups, family participation, peer-run groups, etc.), adherence counseling (by allied health professionals such as pharmacists, nurses, etc.), psychotherapeutic interventions (whereby a mental health practitioner can utilize cognitive-behavior modification techniques such as cognitive restructuring, relaxation training, and desensitization procedures), paradoxical techniques, and societal levels of intervention (public governmental policy, work setting, employment policy, and insurance policies), all can affect patient adherence. These techniques can be used to supplement other techniques. Adherence counseling, for example, in conjunction with self-management skills, can help improvement be maintained long-term, as opposed to short-term.

The varied characteristics and circumstances of the patients, the disease, and the environment must be taken into consideration when the clinician is deciding which intervention to use (when and how to use it and which variation of it is most appropriate). In other words, treatment must be individualized.

Psychotherapeutic Interventions

Often, specific adherence enhancement procedures are not adequate to deal with problems. Patients with serious emotional needs, control issues, denial,

depression, guilt, fear, anxiety, etc. could benefit from a variety of psychotherapeutic interventions (e.g., individual psychotherapy, group psychotherapy, crisis management, or family therapy).

Paradoxical Interventions

Paradoxical Intervention Techniques (PIT) have been found useful with certain classes of resistant patients. These PITs include procedures of symptom prescription, restraint strategy, implying choice, anticipating and forearming, reframing, and humor.

The Integrated Application of Adherence Enhancement Interventions

As Meichenbaum & Turk have noted, “Because of the complexity and multidetermined nature of treatment nonadherence and the heterogeneity of the patient population, there is an increasing recognition that integrative interventions are required” (1987, p.235). Based on a combination of research and clinical experience, Meichenbaum & Turk (1987) offer the following clinical guidelines for adherence enhancement:

1. Anticipate nonadherence.
2. Consider the prescribed self-care regimen from the patient’s perspective.
3. Foster a collaborative relationship based on negotiation.
4. Be patient-oriented.
5. Customize treatment.
6. Enlist family support.
7. Provide a system of continuity and accessibility.

8. Make use of other healthcare providers and personnel as well as community resources.
9. Repeat everything.
10. Don't give up! (p. 243)

Outcome Measurement

Outcome evaluation includes physician report (Appendix H, 1/3/01), patient self-report, and therapist rating. The therapist rating was based upon clinical assessment derived from patient interviews both during and at the conclusion of treatment. The follow-up assessment and closing session (Session 9 dated 12/8/00) took place 4 weeks after the termination of the treatment (Session 8 dated 11/10/00). The physician was asked to rate the patient's suspected compliance level on a 5 point Likert-type rating scale, (with 1 being poor, 2 being fair, 3 being good, 4 being very good, and 5 excellent) at baseline (time of referral) and at 4 weeks post-treatment (See "Physician Report Form," Appendix H, 1/3/01). In addition to a Likert-type rating, changes in the patient's condition were independently gauged by objective medical measures such as lab reports and physiological feedback (presented as patient-documented blood pressure readings). The accuracy and utility of the assessment process were gauged at various points of the therapeutic process. The assessment material served to communicate with the patient, to guide the case conceptualization, to develop treatment goals and intervention strategies, and finally, contributed to the outcome of the treatment in terms of treatment efficacy. Additionally, the physiological measures (blood pressure readings, medical examination, laboratory findings, etc.) provided data to indicate treatment efficacy, although there was not always a direct correlation between compliance and health outcome (Meichenbaum &

Turk, 1987; Steiner & Earnest, 2000). In this case, the treatment efficacy was related primarily to an increase in adherence. It should also be noted that the clinician concurred with Steiner and Earnest (2000) that the patient need not necessarily comply/adhere in a 100% fashion in order to derive benefit in terms of positive health outcome. In this case study, we shall see that the goals of therapy (i.e., to lower and stabilize blood pressure) were achieved with the patient having participated in the development and alterations of her initially prescribed treatment regimen. The patient was the primary source of information and insight into her issues and problems regarding adherence and also a collaborator with the health care provider (Dr. K.B.) and the clinician in developing and implementing strategies and solutions to these problems.

Annotation

In summary, the assessment process will be reviewed, meaningful segments reproduced, and a running critique and commentary provided. The structured clinical interview, as administered to the patient, provided the basis of the psychosocial information and critical contribution to the patient profile and subsequent case conceptualization. The original questionnaire, as completed by the patient, is included, as well as the findings as to how the data were compiled and analyzed. The findings (patient profile) and treatment/intervention recommendations, as presented to the referring physician, are also included. The intervention itself is reviewed, with commentary regarding underlying theory and rationales that contributed to any particular treatment strategy or technique. The follow-up "Physician Report" (submitted to the referring physician 4 weeks post-treatment), in addition to information from the patient's

medical chart and relevant physiological measures are documented pre- and post-treatment.

CHAPTER 2

ASSESSMENT

SESSION 1 (9/15/00)

The subject of this case study is M.M., who was referred by her primary-care physician. The first session with the patient took place, as agreed upon with both the patient and the physician, in the physician's office. The patient was greeted by the clinician (herein referred to as "therapist"), presented with an orientation to the study, and then given the "Informed Consent Form" (see Appendix B) and the "Consent for Taping Sessions" form (see Appendix B). The patient and therapist reviewed the forms and the patient indicated her understanding and consent. The therapist, then, verbally reassured the patient of confidentiality safeguards, such as maintaining patient materials in a locked cabinet and anonymity in written and taped references to the patient and her family. The agenda for the first session included the Psychosocial Intake Evaluation and the completion of the Health Behavior Profiling Questionnaire (HBPQ). The session lasted 85 minutes: 10 minutes for the consent materials, 35 minutes for the Psychosocial Intake Evaluation, and approximately 40 minutes for the HBPQ.

Psychosocial Intake Evaluation

Demographics:

The patient is a 43-year-old African-American female. She was born in Philadelphia, Pennsylvania. She has been married for 6 ½ years. She is employed as a

full-time Administrative Assistant. Her religious background is Baptist. Her primary care physician, Dr. K.B, referred her to the therapist.

Presenting Medical Complaints/Problems:

The patient reported that her only medical complaint or problem was hypertension. This condition was first diagnosed in March, 2000. The patient indicated that she had her blood pressure readings recorded and would bring the records to the next session. She reported that she monitored her pressure at least weekly. The patient seemed unclear regarding her recollections of prior pressure readings, including the reading she took that morning (9/15/00). She recalled a reading of 155/95 when the documented reading was actually 140/91. She recalled her highest reading as 195/110 when the documented readings from 2/25/00 to 9/15/00 indicated that on 2/28/00, the reading was 194/114 and on 3/23/00, the reading was 136/119. (See Pre-Intervention Blood Pressure Readings, Table 1, for the complete documented readings from 2/25/00 to 9/22/00.) This faulty recollection reinforces the need for written documentation of blood pressure readings, as were collected in this study.

When asked what the physician prescribed for her hypertension, the patient stated that he has not prescribed any medication. Rather, she was watching her diet and exercising.

Therapist Now, what are you taking for the hypertension? What has Dr. K.B. prescribed? Let me put it that way.

Patient Dr. K.B. has not prescribed any medication at all. Exercising is what he prescribes, watching my diet, which is not really a problem I don't think, because I am not a big salt-eater, but, basically, try exercising at least three times a week, an hour three times a week.

Therapist Did he tell you what kind of exercise?

Patient No, but I pretty much walk, treadmill, leg lifts, stuff like that.

TABLE 1

Pre-intervention Blood Pressure Readings (2/25/00 – 9/22/00)

Date	Systolic	Diastolic
2/25/00	190	100
2/28/00	157	109
2/28/00	194	114
2/29/00	159	90
3/1/00	151	104
3/2/00	164	98
3/3/00	146	116
3/4/00	144	104
3/7/00	140	93
3/8/00	151	107
3/9/00	160	106
3/10/00	167	106
3/14/00	167	111
3/15/00	183	106
3/17/00	167	70
3/20/00	151	106
3/23/00	136	119
3/27/00	149	92
3/29/00	128	110
3/30/00	152	82
3/31/00	154	94
4/7/00	163	81
5/17/00	145	90
6/13/00	141	88
6/26/00	118	70
7/3/00	139	88
7/5/00	139	87
7/14/00	140	87
7/18/00	128	79
8/1/00	150	85
8/5/00	146	107
8/16/00	149	96
8/30/00	149	92
9/15/00	140	91
9/18/00	147	100
9/22/00 (patient read)	184	112
9/22/00 (office read)	173	120
Mean	153.00	97.57
SD	16.98	12.92

Note: 1. On occasion, the patient has had blood pressure readings taken by a medical technician or other medical personnel at the medical facility. These readings are indicated in parenthesis as "office". (Prior to 9/00, when the patient obtained home-based equipment, all readings were office-based.)

2. On 9/29/00 and on 10/20/00, the patient took Dyazide, indicated as "medication" as per physician instructions (i.e., three consecutive diastolic blood pressure readings over 90mmHg).

- Therapist So you are providing your own regimen. You decided what would be a good kind of exercises to do and you do them. Do you take your pulse...
- Patient No, I don't check my pulse.
- Therapist And monitor how much your heart is working at those times? And you do this at home alone, or in a gym?
- Patient At home, well, not at home. Usually my husband is with me, especially when we walk like three miles, on Sundays.
- Therapist Have you noticed a difference when you exercise? **(Very early in the evaluation, the therapist focused the patient on the relationship between exercise and changes in her blood pressure.)**
- Patient Yes, when I exercise it is normally "back to normal" whatever.
- Therapist OK, changes when you exercise. It is closer to normal
- Patient Yeah. Right.
- Therapist OK. We are going to get back to this topic because this is what is going to be our major focus. But this is your only health complaint or problem?
- Patient That's the only one.
- Therapist OK. You are blessed if that's the only one.
- Patient (Laughs).
- Therapist But it is something to work on.
- Patient Something to keep an eye on.

The patient indicated that she had no sleeping problems and that she normally slept about six hours per night, though on some evenings she could use a "couple hours more sleep." Her appetite was good and her diet was characterized as well balanced, with a large quantity of fruits and vegetables. Salt consumption was reportedly carefully self-monitored. She had already cut her consumption of potato chips from weekly to once monthly and from a whole bag to a small quantity. Headaches and nightmares were denied. When tense, the patient experienced tightness in her neck. (She began massaging her neck at this point in the interview).

Lifetime Drug History:

The therapist read a comprehensive list of addictive/abusable substances and the patient denied any history or current use of any of the substances. She currently took no over-the-counter drugs. She did not smoke cigarettes. The patient's only prescription

medication was birth control pills and she denied any side effects associated with these pills. However, when first diagnosed with hypertension in March, her OB/GYN physician had her discontinue the prescription for four months under the assumption that it may have been contributing to her hypertension. When it was determined that this suspension caused the patient to become amenorrheic and that her blood pressure was “close to normal” when she exercised, the birth control pills were resumed (per the physician’s instructions).

Family Composition and Relationships (past and present):

The patient shared her household with her 44-year-old spouse. She had a son, age 26 years, who lived in Philadelphia and with whom the patient stated she was “very close.” The patient was one of ten children, one of whom was deceased. The siblings ranged in age from 40 years old to 60 years old. The deceased sibling was a female who died at age 55 years from a brain tumor. The patient manifested good recall ability in that she was able to name each sibling and gave his or her ages in birth order. All of her living siblings resided in Philadelphia, with one exception, a sister who lived in New Jersey. According to the patient, she was “close” with the oldest sister (who was 60 years old). She stated that she was “not too close with the boys, the older boys.”

Regarding the parents, the mother was living, was 78 years old, and resided in Philadelphia. Father was deceased and the patient believed that he died at about age 65 of causes unknown to her. Her parents separated when she was approximately 4 years old and the patient had no further contact with her father. The patient stated that she was “very close” to her mother.

Social Relationships:

The patient was not currently a member of any clubs or organizations. She reported a former membership in a health club, but she had not been involved there, either, in the last year or two. She gave little information about her interpersonal relationships, but did indicate that she had a small, though adequate, number of friends.

Educational Data:

The patient was a college graduate with a Bachelor of Science degree in Education. She had special training in the area of Special Education.

Vocational Data:

From 11 years ago to the present, the patient had been an Administrative Assistant at her current job. Prior to this, she was an elementary school teacher for ten years. Prior to that, she did "little odds-and-ends jobs" and was a full-time student.

Military History:

No military history was reported.

Legal Problems:

No current legal problems were reported.

Sexual Development and Present Functioning:

The patient reported that her first sexual activity was at age 16. She described it as consensual and without problems. She became pregnant at 17 years old. She reported no current problems in the area of sexual functioning.

Family Medical History (medical and psychiatric history):

Her mother had been an insulin-dependent diabetic for the past 20 years. Also, she has been on dialysis for the past 2 years. During the course of this interview, the

patient forgot to mention that her mother suffered from severe emphysema and further, that the patient aided her daily, not only with her insulin injection, but with her respiratory therapy. Also, her mother continued to smoke cigarettes. The patient's deceased sister was also an insulin-dependent diabetic. Her father was an alcoholic, but the patient was not aware of any other health problems regarding her father. The patient's two oldest brothers (ages 58 and 46, respectively) were also alcoholic.

Regarding hypertension in the family, her mother did not have it. The patient did not know whether her father suffered from hypertension. A sister, approximately age 50 years, had hypertension and had been on anti-hypertensive medication for the last year.

Personal Medical History:

The patient reported having had no history of any serious accidents. She had one surgery for a tubal pregnancy that took place approximately two years ago. Her history was negative for any serious illnesses. As previously stated, the patient was first diagnosed with hypertension in March, 2000.

Summary Evaluation Regarding Presenting Complaints/Problems:

Therapist	To the point. Now let me ask you, do you know why Dr. K.B. referred you?
Patient	Because I think he referred me to you because of just the hypertension and no other medical problems. So.
Therapist	Right. But what is it about the hypertension that he referred you for? I mean, how did he explain that I would be able to help you?
Patient	Well, he just wanted to know if I was interested in talking with you about, you know, about discussing his plans, or his uhm... (The patient understood that she was referred to the therapist to discuss her hypertension and the physician's plans for treatment. In the dialogue below, the therapist and patient discussed the treatment plan prescribed by the physician and the patient's inability to adhere to the regimen. The patient was indicating her resistance to medication. Her work-related fatigue was presented as an obstacle to her performing the exercise regimen. A positive indicator of future success, however, was that the patient has already had a past history

of success with a regular exercise regimen and had already experienced a relationship between her blood pressure and the exercise. As Rosen, Brondolo, and Kostis (1994) point out, “Past exercise behavior is the most reliable predictor of future exercise compliance” (p. 95).)

- Therapist OK. Now, what the issue is, is that the doctor let me know that he offered you medication and exercise . . .
- Patient Right.
- Therapist To control your blood pressure?
- Patient Right.
- Therapist And your choice was what?
- Patient To choose the exercising over the medication.
- Therapist OK. Now, do you have any problems with following the exercise regimen?
- Patient Sometimes yes, because I am too tired.
- Therapist OK.
- Patient But at least on Sundays. I try to make an effort to do whatever it is I normally do on Sundays, which is my three-mile walk.
- Therapist OK.
- Patient But I think that is just one day out of the week. The other two days, instead of an hour of exercising, it may be 15 minutes on the treadmill and then 15 minutes on the stair climber, something like that. So it is not an hour. It is a half an hour, and it needs to be at least an hour.
- Therapist OK. And do you have strong feelings about beginning the medication regimen?
- Patient I do. I'd rather not. If I know it can be controlled by exercising, I'd rather go with the exercising even though I have been really working long hours. So I have just been too tired. But I know that once I get started or going for like an hour, three times a week, then it wouldn't be a problem.
- Therapist OK. And have you ever done that, where you have exercised three times a week?
- Patient Oh, yeah. I used to exercise every day.
- Therapist Let me ask, when you do that, have you seen that . . .
- Patient Yes.
- Therapist There is a direct relationship between your blood pressure and the exercise?
- Patient Yes, definitely.

After the conclusion of the Psychosocial Intake Evaluation, the patient was presented with the HBPQ. (Information regarding the development of the HBPQ, as well as the rationale for the utilization of the HBPQ, will be presented in Chapters 5 and 6.) In order to mitigate any anxiety, the therapist reviewed the directions and reassured the

patient that the HBPQ was not a test and that she could not make any mistakes in that regard. The HBPQ was completed in approximately 40 minutes and an appointment was made for Session 2. It was agreed that the therapist would review the completed HBPQ and then, in conjunction with the patient, identify and clarify any potential issues for the patient regarding her health.

Telephone Conference with Physician (9/15/00)

After the initial session with the patient, the therapist contacted Dr. K.B., the referring physician, in order to clarify issues and information thus far available. Dr. K.B. stated that he had given the patient an “ultimatum” of either working out regularly or taking medication. He believed that the patient had been working out and he stated that he was “satisfied that her pressure went down.” He believed that work pressure and emotional reaction were contributing to the patient’s elevated blood pressure.

The therapist inquired at which point Dr. K.B. would recommend that the patient begin medication. He stated that if the blood pressure readings were 150 systolic with a diastolic reading of 95 or higher, he would insist that anti-hypertensive medication be instituted. Regarding the therapist’s request that the physician quantify the optimal amount of exercise for the patient, the physician stated that this was an “individual issue” and that either “she does or she doesn’t.” The information obtained from the physician helped the therapist understand that the patient had been given choices and latitude regarding her prescribed regimen.

In a later review of the documented blood pressure readings, it became clear that from 2/25/00 to 3/29/00, there were multiple readings in the significantly high range and from 3/30/00 to 8/1/00, the pressures were reasonably controlled (i.e., diastolic readings

below 95mmHg). Effective 8/5/00 to 9/15/00, the date of this telephone conference with the physician, there was the beginning of an upward trend that indicated the need for medical intervention (e.g., on 8/5/00, the reading was 146/107). (See Pre-intervention Blood Pressure Readings, Table 1).

SESSION 2 (9/19/00)

HBPQ Review

The second session involved the review of the HBPQ as completed by the patient on 9/15/00. The HBPQ, as found in Appendix D, is a reproduction of the patient's answers with identifying information deleted. Checks made by the therapist appear next to some question numbers in order to indicate "flagged" items requiring inquiry. Some items have answers crossed out and rewritten (after having been reviewed, discussed, and corrected/revised by the patient).

The purpose of this session was to clarify and expound upon those answers that were "flagged" by the therapist. The therapist addressed each and every flagged item with the patient. There seemed to be a variety of reasons for answers requiring revision. This reinforced the need for a face-to face clinical interview with the patient, as was taking place in Session 2. In summary, the limitations of a dichotomous, closed-ended yes/no questionnaire of the nature of the HBPQ became evident during Session 2. Such an instrument does not, in itself, allow for patient ambiguity, for the patient's need to provide explanations, or to be given explanations regarding meaning or intent. The need for a follow-up clinical interview with the questionnaire respondent is necessary in order to have a valid, meaningful understanding of the patient's health-related profile. It was found that in some instances, the patient simply misunderstood the meaning or intent of the question. In most instances, however, patterns were revealed which provided the basis of the case conceptualization and treatment interventions.

Beginning with Question 3 (HBPQ, p. 1), the therapist was surprised that the patient answered "No," she was not a minority. The answer was corrected in review, but

the patient made clear that she is only a minority from the therapist's point of view, not hers. This answer provided some insight, not only regarding the patient's perception of herself, but also pointed to the need for sensitivity on the part of the therapist vis-à-vis racial/cultural differences between herself, a Caucasian, and the patient. The therapist decided to revisit this issue at a future point in the treatment of this patient. On Question 20 (HBPQ, p. 2), the patient mistakenly answered "Yes" when she meant "No."

Portions of the dialogue regarding Question 39 (HBPQ, p. 3) through to the end of the HBPQ, are reproduced in order to illuminate the inquiry and assessment process.

Commentary regarding this dialogue (as well as references to the HBPQ question numbers) will be indicated by parentheses and bold type.

- | | |
|-----------|--|
| Therapist | All right, on the next page here are the ones that I wanted to ask more about. Do you believe that even if you do everything the Health Care Provider recommends you may still get sick? You put Yes. What are you referring to there? Are you talking about the hypertension? (No. 39) |
| Patient | Yeah. I am talking about the hypertension. I just answered that as yes because even if I do follow exercising as he recommended, there is still a possibility that it may or may not have the positive effect on my blood pressure. (The patient is cognizant of the fact that compliance does not always lead to a positive health outcome.) |
| Therapist | Right. |
| Patient | So far it has, but . . . |
| Therapist | So exercise might not be sufficient. Right? What about medication? |
| Patient | Medication may. If I am willing to take it. (Here the patient introduced her resistance to medication.) |
| Therapist | If you are willing. |
| Patient | And that is why I answered yes to that. |
| Therapist | Medication may work. |
| Patient | Or a combination. |
| Therapist | Or a combination. So you are open to the idea? |
| Patient | Medication is the last resort. |
| Therapist | Medication is the last resort. Got it. So that clears that one. Do you believe it is your, and yours alone, responsibility to decide about your medical care? (No. 46) |
| Patient | Yes. I am the responsible party. And if I am not willing to follow then it is just my responsibility. No one else. The doctor can only enforce certain...He can't make you do and that is why I answered yes. (The |

- patient was indicating her independence and what appears to be an internal locus of control.)**
- Therapist OK. Do you believe you must follow your Health Care Provider's advice 100% to bring about the best health outcome? You put No. **(No. 48)**
- Patient I put No because he may say an hour. I may say 45 minutes is good enough for me. And it may work so that is not following his direct lead and depends on what type of exercise we are talking about. He may say running. I may say walking. **(Again, the patient is indicating her independence regarding her decision-making and her behavior.)**
- Therapist OK.
- Patient He may say running a half an hour I may say walking an hour, which is probably equivalent to that half-hour thing. That is why I answered No.
- Therapist So you will base your decisions on what works for you or what you think might work for you? **(The therapist was being non-judgmental regarding whether the patient was being pragmatic and was promoting her best interests in terms of her health, or whether her nonadherence was deleterious to her health and welfare.)**
- Patient I will base my decision on what works for me. If a certain number of, let's say six months from now, if I feel as though I have done all the exercising properly and my pressure is still at a level where, then I will consider medications or something like that because I know it is not just my eating habits or my exercising habits.
- Therapist Right, so in your mind you have some kind of a time limit for how long you are going to give yourself? **(The therapist began to establish a framework and time-line for the goal of blood pressure management in concert with the patient.)**
- Patient Yes. I don't want to wait till I have a stroke to find out that I needed to be on medication. So yeah, I think that is sufficient enough time.
- Therapist You gave yourself...?
- Patient Yeah. Three to six months and if the pressure is continually going up, up, up, instead of...especially if I am following or doing my daily exercising and it hasn't changed, then...
- Therapist OK. But at this point we haven't even begun the experiment?
- Patient Right.
- Therapist Officially, because you haven't yet?
- Patient Right. Yes.
- Therapist Gotten to it?
- Patient Yes. **(The patient had committed to a 3- to 6-month time-line to attempt to stabilize her blood pressure through the diet and exercise regimen.)**
- Therapist OK. I got it. Have you been diagnosed with a medical problem which may be long term? You put no. **(No. 52)**
- Patient Well, I guess. Well, I look at the hypertension as not being a long-term problem. I think it is something that can be controlled. So I guess it could be yes. But I put no for that reason. **(The patient does not seem to believe that her hypertension is a chronic disease.)**

Therapist OK.

Patient I am assuming that I can control it by the proper exercise and diet.

Therapist OK. Do you believe that you have a chronic ongoing medical problem? Would it be the same reason? **(No. 53) (This was an example of a redundant, but critical, question as were the next three questions. These questions were related to whether or not the patient believed or understood that she had a chronic illness.)**

Patient I put no for the same reason, yes

Therapist OK, now on Page 4, I am asking, this is No. 54, does your illness come and go? You put Yes.

Patient Some days it is high and some days it is not.

Therapist OK. Do you see your illness as a short-term illness? You put Yes. **(No. 55)**

Patient Again, as long as I can keep it under control with the proper diet and exercising, I do see it as a short-term.

Therapist What if you had to take medication?

Patient Then the answer probably would have been No.

Therapist OK. So you put the treatments in a different category?

Patient Yes.

Therapist Diet and exercise is a category where you are not getting treatment really?

Patient Well, Yeah. Yes.

Therapist Once you add medication...

Patient Yes.

Therapist Medication.

Patient Yeah, then that is the treatment. Exactly. **(The patient did not consider diet and exercise as medical treatment. This belief could also influence whether or not she considered her hypertension as a serious and chronic disease.)**

Therapist OK. It is important to understand what you are thinking on this issue. Do you think that your condition will be with you for life? No. Is it? **(No. 56)**

Patient Again, for the same. Yes.

Therapist OK. Do you believe that you are OK health-wise just as you are? Yes? **(No. 58)**

Patient Yes. Did I put no?

Therapist No, you put Yes, but...

Patient OK.

Therapist But do you believe that you are OK health-wise just as you are? **(No. 58)**

Patient No.

Therapist In other words... **(It was important that the therapist clarify whether or not the patient's beliefs regarding her health were reflective of denial.)**

Patient No, it should be no. Because if I was, then I wouldn't have to go through all this.

Therapist That's right you/we wouldn't be discussing this.

Patient I misread that.

- Therapist Yeah, some of them... it is hard to follow all of these and to figure out the wording. Are the possible complications of your condition major as opposed to minor? And you put No. **(No. 66)**
- Patient Read that question again.
- Therapist Well, I was asking you about the complications of the condition. Are the possible complications of your condition major?
- Patient Yes.
- Therapist Yes. So the answer should be Yes? **(Here again, it was important to clarify whether the patient's perception of her illness was reality-based in terms of severity.)**
- Patient Right.
- Therapist I thought that if we reread that one you would understand because you were talking about not wanting to have a stroke. **(The therapist was reinforcing the patient's understanding of the consequences of uncontrolled blood pressure.)**
- Patient Yes. Right.
- Therapist So you are aware. Would you like to read or review educational material about your condition? You put Yes. **(No. 74)**
- Patient Yes.
- Therapist OK. Now, have you been given material about hypertension?
- Patient Ah yeah, a little pamphlet from time to time. Yes.
- Therapist Would you like more material?
- Patient Sure. Just to read. Just to know. Yes. It couldn't hurt. **(An intervention based on the need for education had been established and agreed upon by the patient.)**
- Therapist Sure. We'll talk more about what your understanding of hypertension really is. It is a little hard to understand for me, too.
- Patient Yes.
- Therapist And I think both of us can do with some education in that field. **(The therapist was "joining" with the patient.)**
- Patient OK.
- Therapist OK. Here we are on Page 5, No. 79. Has your physician recommended any changes in your habits related to your health? You said No.
- Patient Umm.
- Therapist Well, he means your...
- Patient Hypertension.
- Therapist Yes.
- Patient Then it should be Yes.
- Therapist The answer is... What has he recommended?
- Patient The exercising.
- Therapist The exercising and monitoring your diet?
- Patient Yes.
- Therapist OK. Do you believe that if your health has not changed due to your condition, it is likely to remain the same? You know what I am saying? **(No. 88)**

Patient Right. **(The patient is indicating that her outcome expectancy regarding her health is that she will remain stable. This may reflect either denial, optimism, or lack of information regarding the nature of hypertension.)**

Therapist You don't think that it is going to deteriorate?

Patient No. **(The patient's answer indicated that she might have had a healthy, positive outlook regarding her future health status. Again, this answer may reflect reality-based optimism or not, depending upon unforeseen future events and actions.)**

Therapist OK. Have you known anyone in a similar situation? You put Yes. Who were you talking about? Somebody you know that has had hypertension? **(No. 92) (This question relates to whether there were environmental/social influences on the patient's attitudes, knowledge, or behaviors.)**

Patient My sister.

Therapist And is she taking medication?

Patient She is taking medication.

Therapist And is hers under control?

Patient Yes. She doesn't exercise.

Therapist She won't exercise? Do you think if she exercised she might not need the medication?

Patient I think that in the last two years since she has probably been taking it, if she exercised properly, she wouldn't. I think overweight or a little obesity has a lot to do with it.

Therapist Is she?

Patient Yes.

Therapist Well , I can see that's one problem you don't have is obesity.

Patient Actually I am 20 pounds heavier than I was. That is why I said I have not been. That could be it.

Therapist Um, I don't know. Well, let's see. What is your height?

Patient 5' 6 and 3/4, almost 5' 7".

Therapist And your weight?

Patient I weigh 160 now.

Therapist OK.

Patient I have never been over like 135.

Therapist You definitely are not in the obese category.

Patient No.

Therapist You're Right. This is a tall, thin, beautiful woman, for the record. OK. Now do you have any ideas about what might be done to improve your health situation? You put Yes. What were those ideas? **(No. 93)**

Patient Just the exercising. Like I said, I really don't think it's my diet or salt intake, no chips.

Therapist Page 6, No. 101. Do you believe that any medication recommended by the Health Care Provider will be helpful to you? You put Yes.

Patient Um.

Therapist You mean?

- Patient I meant Yes on that one. If all else fails...
- Therapist So. If all else fails?
- Patient Yes. If all else fails. That is what I was thinking. **(Again, the patient would at least consider medication, even if only as a last resort.)**
- Therapist All right. Would you like more information about your condition?
(No. 102)
- Patient Yes.
- Therapist Well, we talked about that. Yes. And you would like it in the form of...? Do you like videos, written material, or to discuss? **(The therapist was clarifying patient preferences and at the same time, offering options.)**
- Patient Written material.
- Therapist Discuss?
- Patient Written material, discuss. Basically, written material.
- Therapist Written and discussion, but prefer written material.
OK. Have you learned much about your own condition? You said Yes.
(No. 103)
- Patient Yes.
- Therapist Have you begun to do research?
- Patient Yes.
- Therapist Do you believe that you are medically ill? No. **(No. 104)**
You don't consider it...
- Patient Well, I don't consider it, again, yet, as a problem. **(Here the patient was indicating a denial of the threat and severity of her condition.)**
- Therapist Do you know what causes this illness? You put No. OK. So that is something... **(No. 106)**
- Patient Actually, I do know what causes, well, what contributes to, not actually causes it.
- Therapist OK. What would that be?
- Patient Improper diet.
- Therapist Yeah...
- Patient Lack of exercise. That is it, basically.
- Therapist I think it's a more complicated thing, hypertension, than diet and exercise.
- Patient Yeah, stress.
- Therapist Stress.
- Patient Stress, I think, is related to it as well.
- Therapist Is that an issue for you?
- Patient No, not really. **(The previous clinical evaluation of the patient pointed to a very stressful lifestyle. The therapist must revisit and address this issue with the patient, especially in developing treatment plans.)**
- Therapist Do you feel vulnerable to serious consequences to your health from your condition? You put No. **(No. 109)** **(This was another question about the patient's perception of vulnerability, and of severity of the health threat. This question was derived from the Health Belief Model. See Chapter 5, Literature Review, for a detailed explanation of this model.)**
- Patient That should be Yes.

Therapist And that goes back to the...

Patient Yeah, long-term.

Therapist Is your condition a threat to your well being? Yes? (No. 111)

Patient Yes.

Therapist So there. It is more consistent. Do you believe there is an immediate risk to your health because of your condition? No. (No. 112)

Patient Not at this point. No.

Therapist Not at this point?

Patient It can be.

Therapist So again...

Patient If nothing is done.

Therapist Do you believe there is a long-term risk to your health because of your condition?

Before I was asking an immediate risk. (No. 113)

Patient Right.

Therapist The answer is No. How about long-term? You put No.

Patient Again, not yet. **(The patient was giving contradictory responses regarding the short-term and long-term risks and consequences to her health. Hopefully, the treatment intervention phase of the case will provide needed clarity to this issue.)**

Therapist Not yet. OK. This is Page 7, No. 118. Are you putting off beginning the treatment? You put No.

Patient Actually I haven't. I have started with exercise. Just not consistent.

Therapist I hear ya. Now would you like more information about your treatment? You put Yes. And again, that is more what we talked about. (No. 130)

Patient Yes. Written materials.

Therapist You can get a feeling for what hypertension is and what it does to you and what affects it and doesn't affect it. **(The therapist was expecting that the educational component of the future treatment interventions would help to eliminate the patient's confusion about the risks, threats, and consequences involved with hypertension. She was currently either not acknowledging, or is unaware of, these issues.)**

Patient Yes. Right.

Therapist Is there anything else about hypertension you would like to know?

Patient That's it.

Therapist What I just said?

Patient Yes.

Therapist OK. Here we go on Page 8, No. 142. Are you able to perform the treatment regimen your doctor has recommended?

Patient I put No.

Therapist You put Yes. But it seems like you were telling me that you really are not right now.

Patient Are you...?

Therapist You are having trouble with the exercise regimen.

Patient Yeah, so that could be a No.

Therapist And?

Patient Well I am not having no trouble.

Therapist What?

Patient Put No. Because I have not been doing at least an hour of exercise.

Therapist You haven't been doing it as prescribed.

Patient Yes. Right. **(The process of clarification became part of treatment intervention in that the patient was confronted with her behaviors, attitudes, and contradictions.)**

Therapist OK. We got that straight. Does your treatment control your symptoms?

You put No. **(No. 146)**

Patient Did I put No or Yes?

Therapist You put No.

Patient Oh. OK. That should be Yes.

Therapist OK. That should be Yes. **(In clarifying the efficacy of the treatment regimen, the patient was indicating that when she was able to perform the prescribed treatment regimen, it was effective.)**

OK. On Page 9, No. 154. Is it convenient for you to follow all of your treatment requirements? You put No. It is not convenient because...

Patient I am too tired.

Therapist 'Too tired. What are your work hours like?

Patient Now?

Therapist Yes.

Patient About 60 hours a week. **(A brief discussion followed (omitted) regarding the recent additional work responsibilities that the patient had taken on.)**

Therapist Sixty hours a week. So when you say that you can't you are too tired, is it because of this long work week? Or are there other things in your life?

Patient It's just, well, fatigue.

Therapist Being that fatigued.

Patient It is. And there are others things as well.

Therapist Such as?

Patient Such as, every morning I am up at 5 because I have to fix breakfast and give my Mom her insulin and stuff like that. I'm like a private nurse to my mother. **(This was more key information about the patient's responsibilities and how she conceptualized herself.)**

Therapist Is she in your household?

Patient No.

Therapist So you go to her household?

Patient So I have to go to her household. Yeah.

Therapist So. You go to her household and take care of her with her insulin. You were saying that the reason that it is not convenient for you to follow all of your treatment requirements is because of fatigue. And some of the reasons that you are so tired is because you get up at 5:00, you fix breakfast, you go to your mother's house to give her insulin and you are also putting in a 60 hour work week. Is there more? **(The therapist was focusing the patient on her stressful lifestyle and the relationship between that and her inability to adhere to her treatment regimen.)**

Patient That's it.

Therapist That's enough. And you get home what time at night from work?

Patient Normally, it depends on which day. Monday is late. Tuesday around 7:00. Wednesday around 7:00. Thursday around 9 or 10. Friday around 6. And Saturdays about 9 or 10.

Therapist Oh Wow. Oh my goodness. That is quite a schedule. So, 6 days a week.

Patient Six days a week.

Therapist And you don't get home until late just about every day. OK. Well, this is a big factor. This is a very big one and that is why you can do what you do on Sundays and not other days. Do I understand the situation?

Patient Yeah. That's it.

Therapist All right.

Patient Then I have to go home and cook dinner.

Therapist Yeah. I kinda factored that in, in my mind.

Are you too busy to take care of all of your treatment requirements? That is the next question. And you put Yes. **(No. 155)**

Patient That is because of all that.

Therapist All the things that we discussed?

Patient Yeah. Right.

Therapist And then there was question No. 158. Can you take your treatment without problems? You put Yes. It seems to me like...

Patient I can without a problem when I am not tired, too tired. And that's why it wouldn't be a problem if I wasn't tired.

Therapist OK. Right. So this is the big one. Got it. OK. **(The therapist spent a lot of time clarifying the issues around work and home responsibilities, time constraints, and physical exhaustion, as these were clearly major issues related to the patient's ability to adhere to an exercise regimen.)**

All right. Page 10, No. 174. Would you like to read or review educational material about your treatment? We discussed that - that's clear. Do you follow treatment instructions 100%? You put Yes. **(No. 179)**

Patient It should be No.

Therapist It should be No. Because you had talked to me about the fact that you do what you think is going to work or does work as opposed to what the doctor tells you to do.

Patient Yes. Right.

Therapist Do you believe the treatment will prevent long-term health damage? You put No. **(No. 182)**

Patient It should be Yes.

Therapist That was just a mistake?

Patient Yeah.

Therapist OK. Page 11, No. 197. Does the treatment program fit with your lifestyle? Yes. Well, with the exception of...

Patient With the exception of. Yeah. It normally does fit with my lifestyle. Again, if I wasn't so tired.

Therapist So, except for fatigue.

All right. Now, No. 201. Is there more than one reason that you are not following your treatment plan? You put No.

Patient It should be Yes. That was just an error.

Therapist No. Is there more than one reason? You put No? Is the fatigue the only reason?

Patient Yeah. Fatigue is the only reason.

Therapist Right. I want to be clear about that. And was your Health Care Provider's recommendation for your treatment very strong? This is No. 209. You put No. **(The patient proceeded to explain that her OB/GYN reacted differently than her HCP. Her OB/GYN's initial reaction was to hospitalize the patient immediately.)**

Patient It should be Yes.

Therapist He was?

Patient Yes.

Therapist He was very clear that this was extremely critical?

Patient Well...

Therapist Well? What you are saying? Well...

Patient Yes.

Therapist No. I would like to pursue this. You are saying that your primary Health Care Provider was less forceful about it than...

Patient Than my OB/GYN.

Therapist Who was it that discovered the condition?

Patient The OB/GYN doctor.

Therapist OK. So, now, what did the OB/GYN doctor recommend that your primary didn't?

Patient Well, she just recommended number one, that I see my primary doctor.

Therapist Right.

Patient Because she has been dealing with me for the last 10 years and she has never seen my pressure that high.

Therapist Right.

Patient So that concerned her. Because I have been faithfully going to her for every year for my annual pap and a drastic change that quick was like, go see him now, so

Therapist Right.

Patient And that is basically, she made it a little more urgent than my primary health care physician did at that time.

Therapist OK. She didn't say how to treat it?

Patient She just wanted me to.... Actually, I need to get that reading for you, because it was pretty high to the point that she really wanted me to ...be admitted for a hospital to take a look at it.

Therapist Oh really? She was frightened.

Patient Yeah. But I sat for a little while and it went down a lot. It was still a concern to her that it was that high in the beginning and I told her that I would go see the primary doctor and she was like, make sure you do, and come back here in a week and I didn't think it was necessary to come back there in a week when I can get my pressure checked here.

Therapist Right.

Patient It is like I know how important high blood pressure can be and/or hypertension can be and I am not going to give you a false reading if he is taking it when you can check with him and he checked it and it wasn't as bad.

Therapist Did you get back to her? **(The therapist was focusing on adherence history as a potential predictor of future adherence behavior and also as an indicator of how seriously the patient judged the hypertension as a health threat.)**

Patient Yes.

Therapist You called her or you went?

Patient I called her.

Therapist You called her?

Patient Yes. I called her and she was out of town, but I left a message with the assistant.

Therapist So is she aware of the fact that you are not going on medication?

Patient Yes, she knows that.

Therapist What is her feeling about that?

Patient Whatever the primary doctor suggested she is not going to...

Therapist She is not going to....

Patient Intervene, I guess, until the next time she sees me again for a pap smear.

Therapist When is that? When is your next appointment?

Patient In March in the year 2001.

Therapist OK. And when is your next appointment with your primary?

Patient Probably in a week.

Therapist OK. So your OB/GYN is very concerned and serious about your need to treat this condition?

Patient Right.

Therapist Is your primary as concerned and serious?

Patient He is concerned, I would say. But his reading wasn't as high as hers at that particular time and the readings that he has been getting did not concern him enough again to prescribe the medication as of yet.

Therapist OK. I got it. You were saying...

Patient I don't have any symptoms at all, no headaches, nothing that would indicate that my pressure is up or down at that point. **(It is typical of hypertensive patients not to experience any symptoms (American Heart Association, 1994; Harowski, 1983/1984; Leidy et al., 2000; Merck, n.d.; Searle, 1998). This is one reason that the condition so often reaches critical/dangerous levels without the patient being aware. It also makes the condition conducive to non-compliance.)**

Therapist So you weren't worried?

Patient I wasn't worried.

Therapist Are you worried now?

Patient A little concerned. Yes.

Therapist OK. Were you told by your Health Care Provider what possible unpleasant side effects you might expect to experience? This is Page 12,

- No. 221. You put Yes. What kind of unpleasant side effects did he talk about?
- Patient If it is not controlled, a stroke, sometimes death.
- Therapist That is from the hypertension?
- Patient Yes.
- Therapist A stroke or death. What about from the treatment? Did he talk to you about any side effects from the treatment? **(The therapist clarified the intent of question No. 221, (i.e., to inquire about treatment side effects).)**
- Patient Since the only treatment so far was the exercise, no.
- Therapist OK. At some point, we will talk about your objections to the treatment, but I am not ready for that yet. **(The therapist was cognizant of the need to carefully address the issues that the patient had regarding her resistance/fear of medication, but the timing of this intervention was delayed until a later point in the interview, when the issue of medication comes up again in reference to the patient's sister. The patient's stage of readiness to respond to this issue was judged by the therapist to be varying between the Precontemplation and the Contemplation stages (Prochaska, DiClemente, & Norcross, 1992). Freeman and Dolan's Anticontemplative stage may be more specifically reflective of the patient's status regarding her attitude concerning medication (Freeman & Dolan, 2001).)**
- Patient OK.
- Therapist Page 13. Would you like more equality with medical care team? Yes - you put Yes. In what way would you like more equality? **(No. 241)**
- Patient Again, I interpreted that as to would I like any written material or....
- Therapist Information?
- Patient Yes - information.
- Therapist Information-sharing. You feel that the medical team is willing to share information?
- Patient Oh, sure. Yes.
- Therapist And that you could get what you need whenever you ask for it?
- Patient Yes. **(The patient perceived herself to have good access to what she wanted from the medical team.)**
- Therapist Would you like to be included and participate more in the medical team decisions about your care? You put Yes.
- Patient Yes.
- Therapist That is No. 243. Does that mean that when you say included more, does not mean you are not as included as you would like to be?
- Patient I am included as I'd like to be now.
- Therapist Oh, OK.
- Patient If you are saying more than -
- Therapist You just mean....
- Patient Yes.
- Therapist Continuous.
- Patient Continuous. Yes.

- Therapist Continuous. OK. I understand what you mean. Thank you. **(The inquiry regarding questions No. 240 through No. 244 provided helpful information regarding the patient's desire for a collaborative relationship and an informed role vis-à-vis the health care team.)** This is Page 15, No. 266. Does anyone you know well have the same medical condition as you? Yes. You are talking again about the sister, (name omitted).
- Patient Yes. Right.
- Therapist And about her before. Do others you know of with the same condition have the same treatment which was recommended to you? Yes. Well, who is that? **(No. 267)**
- Patient That was (the sister's name). In the beginning...
- Therapist In the beginning she had...
- Patient She was supposed to be exercising, proper diet, that type of thing...
- Therapist And that didn't...
- Patient Before she went on medication...
- Therapist So that didn't help enough?
- Patient No.
- Therapist Is that it?
- Patient No.
- Therapist Or she didn't do it?
- Patient She didn't do the exercise.
- Therapist Oh.
- Patient Or watching the diet.
- Therapist Oh, so that's why she had to go on medication.
- Patient Yes.
- Therapist So she never really got to find out whether...
- Patient Right.
- Therapist I got it. You said is there someone else who could help you to follow your Health Care Providers advice? That is the last question, No. 277. You put Yes. Who did you have in mind? Who could help you?
- Patient Oh, that should be No.
- Therapist That should be No?
- Patient Yes.
- Therapist You feel independent about this?
- Patient Yes. **(The patient's sense of self-reliance was a theme throughout the interview.)**
- Therapist All right. Now, there were some other things that came up in my mind as we were going through this, and that is that, you really didn't tell me what your objections were to taking medication. **(The therapist made an initial attempt to clarify and analyze issues regarding medication.)**
- Patient Um, long-term effect. I am just one that don't like medication at all and especially something that I have to continue to take for the rest of my life if it can be controlled....
- Therapist Right.
- Patient Just by a simple exercising.

Therapist Why don't you like medication?

Patient I just don't like taking it.

Therapist I mean what is it about it? Do you know? **(At the risk of alienating/annoying the patient, the therapist persisted in pursuing the issue, because it was such a potentially important aspect of the patient's future medical status.)**

Patient No, not really. I won't even take an aspirin or Tylenol.

Therapist Is it the side effects?

Patients It is not the side effects. I just don't like taking medication for some reason.

Therapist OK.

Patient And if I do take a Tylenol or Advil, it is probably a headache that most people would consider a Migraine at that point or something like that. But I just don't like taking.... I think sleep can cure anything. If I can sleep, I am fine.

Therapist Right. I guess... is it that you never really thought about what it is about medication that you don't like?

Patient Yeah. I never really thought about it. I just know that I don't like taking a lot of medication.

Therapist OK.

Patient Not that I have had to take it, but...

Therapist All right. So this is something new...

Patient Yes.

Therapist The thought of having to take it, and that really disturbs you.

Patient Yes.

Therapist And when you say the long-term effect of blood pressure medication, what would be the long-term effect?

Patient Um, I've noticed, or I've talked to some people, that even when their pressure is "normal," whatever that means, they continually have to take the medication, and I don't want to get to the point that I am taking medication and cannot get off of it even if, or my pressure is depending on, taking this medication to keep it under control and once I stop, it is going back up. So, if I can get to the point where I can control it myself with the diet....

Therapist Right.

Patient Or the exercising, then I would rather do it that way. Even though that is long- term, that is, something that I would have to continue the rest of my life....

Therapist Right.

Patient That suits me fine compared to taking medication.

Therapist Let me see if I understand. When you talk about long-term effect and you talk about people having to continue in order to be OK....

Patient Right.

Therapist It sounds like your fear is one of dependency.

Patient Yes.

Therapist It that it?

Patient Yes. That's it.

Therapist So you are not afraid of side effects?

Patient No.

Therapist You are afraid of being dependent on something?

Patient Right.

Therapist Something that is chemical?

Patient Chemical - yes.

Therapist Is that it?

Patient That's it (patient laughs).

Therapist At least we are clear on what your issues are.

Patient That's it.

Therapist That is the point of this. To get to the bottom of what your concerns are. So, you're willing to do an awful lot to avoid....

Patient Yes.

Therapist This kind of relationship with medication.

Patient Exactly.

Therapist It would be a relationship.

Patient Yes. I don't want to be in a relationship with medication. **(Finally, it seemed clear that the patient had a fear of becoming dependent on medication, and the therapist will revisit this issue later in the treatment and help the patient make a connection between her fear and her family history of addictive disorders.)**

Therapist OK. I hear you. Well, I thank you very much for going through this with me and it helps me get a view of what your issues are and what your doctor might need to contribute. I need to clarify with your doctor what his goals are for you. It sounds like, well, I don't know whether he has some kind of a deadline in his mind before he would really push medication as opposed to exercise. That is important for me to understand because the three of us have to work as a team. **(Here the therapist reinforced the team concept, which she knew was an important issue for the patient based on her previous answers and discussion (see questions No. 240 through No. 244).)**

Patient OK.

Therapist We don't want him thinking one thing and you another and me another because that would be....

Patient A little relevant to what is going on here. I gotcha.

Therapist Yeah, not a good deal. So, the next time we meet, I am going to give you feedback about what I see going on, and I'll have talked to the doctor, and I'll have gotten approval from my research team, and then we'll talk about what you want to do for a treatment plan. **(The therapist was letting the patient know that the treatment plan would require her participation and decisions. The importance of this inclusion was due to the expression of her desire to be included. Also, by her pattern of behavior, the therapist concluded that the patient makes her own plans and carries them out as she sees fit.)**

Patient OK.

Therapist All right? Sounds like a deal.

Patient Sounds good. Thank you very much.

Therapist Thank you. And I'll be getting back to you in the next week. Okay?

SESSION 3 (9/22/00)

Session 3 began with a review of blood pressure readings that the patient had documented from 2/25/00 to the present, 9/22/00. (See Table 1, Pre-intervention Blood Pressure Readings). The therapist noted that there were several readings in which the evaluation, either the systolic and/or the diastolic pressures, were in the severe range. The dates noted for the most severe elevations were: 2/25/00 (190/100), 2/28/00 (194/114), 3/2/00 (164/98), 3/3/00 (146/116), 3/14/00 (167/111), 3/15/00 (183/106), 3/17/00 (167/170), 3/23/00 (136/119), and 4/7/00 (163/81). Significantly, the patient read her pressure at home on 9/22/00 in the morning and it was 184/112. When it was taken at the office after the session by a medical technician at the clinic, the reading was 173/120. This second reading was at 10:00 A.M.

The therapist proceeded to bring the pattern to the attention of the patient. From March 30th through August 5th, the patient's diastolic pressures remained, with few exceptions, in the normal range (i.e., below 90). For example, on 8/1/00, the reading was 150/85, which seemed to be close to the average for the entire summer. Then, on 8/5/00, the pressure went up to 146/107. It stayed significantly high (i.e., 140 and above systolic and 91 and above diastolic) from 8/5/00 to the present.

The therapist gave the patient positive reinforcement for such careful self-monitoring and then questioned the patient about how she understood the pattern. The patient accounted for the "normal" period (i.e., 3/30/00 to 8/5/00) as due to her ability to exercise/work-out at least an hour and at least three days per week. In August, 2000, when the pressure elevated, the patient acknowledged that her workload increased, her fatigue increased, and her energy level decreased. The therapist and patient jointly

established, once again, the relationship between some of the main variable/factors that were contributing to the patient's hypertension (i.e., exercise, fatigue, and job stress).

The second session involved review of the HBPQ as completed by the patient on 9/15/00 (see HBPQ, Appendix D) in order to clarify and expound upon those items that were "flagged" by the therapist. Appendix C contains the questions on the HBPQ, with the questions divided into the following categories: Patient Characteristics, Health Status, Treatment Regimen, Patient-Provider Interaction, and Environment. "Patient Characteristics" included questions number 1 through 51 on the patient questionnaire (HBPQ, Appendix D). "Health Status" included questions number 52 through 114. "Treatment Regimen" included questions number 115 through 207. "Patient-Provider Interaction" included questions number 208 through 263. "Environment" correlated with questions number 264 through 277. In small print, on the right-hand side of the questions in the HBPQ (as found in Appendix C), are hypothesized factors/variables corresponding to each question (i.e., the primary mechanism/s considered to be reflected by the question). For example, questions number 123, 124, 125, and 126, are all clearly and explicitly about "side effects" as a factor regarding the patient's issues with the treatment regimen. The therapist cross-referenced the information obtained in Session 2 regarding the HBPQ as answered by the patient with the categories and factors delineated in the HBPQ in Appendix C and prepared the analysis for presentation to the patient.

The next aspect of Session 3 involved the presentation of the findings thus far to the patient, findings derived from the psychosocial intake evaluation and from the HBPQ. The first section of the HBPQ, Patient Characteristics, brought the therapist back to question No. 3, about the patient being a racial minority. This provided an opportunity to

discuss the higher risk for hypertension based on the patient being an African-American.

The prevalence is about twice as common among African-Americans than among Caucasians (Rosen, Brondolo, & Kostis, 1994).

- Therapist OK. And what else that came up in that part in terms of your personal... it seems to me that you were saying that you are very independent and you like to make decisions on your own and that you like to take care of yourself and also you are very pragmatic, which means you are very practical. Is that true?
- Patient That's true.
- Therapist OK. So, those are very positive things, that you're independent and that you are practical. And I think that could work in your favor.
- Patient It could! Good. **(The focus was on other patient characteristics that the therapist attempted to frame in a positive way, and the patient, in turn, responded positively. Here, alternatively, the patient's traits could have been viewed negatively, such as labeling the patient as counter-dependent and resistant as opposed to independent and pragmatic, but the therapist intended to use these traits in the service of the therapeutic alliance and treatment planning and implementation.)**

When the therapist cross-referenced HBPQ answers No. 52 through No. 58 with the HBPQ master (Appendix C), the category labeled as "Health Status," it is evident that all of these questions relate to chronicity and denial. Also, later questions, No. 66, 88, 105, 109, 111, 112, and 113, further related to perception of severity, denial and vulnerability/health threat.

- Therapist **(The therapist worked, as evidenced in the following dialogue, to help the patient acknowledge and accept her vulnerability, the threat to her health, and the chronic nature of hypertension.)**
 Good. OK. Now health status, over and over again, the questions related to the high blood pressure, I want to do more education and you kept asking over and over for more information. But you were questioning the chronicity of hypertension. Over and over, you were saying you really didn't believe that it was a chronic condition. So, that's something we will look into and see whether it's something that comes into a thing by itself where it resolves, or whether it's something that you are more likely going to have to monitor once you have it. I don't know and that's what we are going to look at. You, right now, see your health status as stable.

And that's an area where we have to look at that. Is there really stability, when...

Patient: It fluctuates.

Therapist: You are seeing all this fluctuation here. When it stays below a certain figure, and we will talk about that figure, then you are talking about stability. We'll get back to that. You do understand a lot about the nature of hypertension. You understand that there is some vulnerability, that there is some threat to your health, some serious threat to your health and regarding this and I think you know, and I think we don't need to belabor that.

Patient: Yeah. I know.

Therapist: Because you seem to understand very well. You know, I guess between your own research and the doctor's, both doctors....

Patient: Basically my own research.

Therapist: Yeah. You figured it out. But you didn't believe there is an immediate risk to your health. You said that and you don't think there is a long-term risk as of yet. So, that's something else we'll have to look at. Is there... are you right now immune to any harm or danger?

Patient: No. I mean, I'm not. That is why I am monitoring.

Therapist: OK. So you understood.

Patient: I am not immune. I don't think it is going to disappear.

In reviewing and developing a conceptualization of the patient's issues with the treatment regimen, it seemed that the patient believed in the potential efficacy of diet and exercise to control her hypertension, but fatigue and time constraints were major barriers to her ability to perform the treatment regimen. Another important issue in the area of treatment regimen was the patient's fear of dependency on medication as a long-term side effect. This issue was explored and addressed further in the future sessions, especially Session 9 (12/8/00).

In terms of patient-provider interaction, the patient confirmed that she enjoyed a positive and satisfying relationship with her primary care physician. In addition, it was very important to her that she collaborated with the medical team in that she participated in the decision-making process and in that information pertinent to her medical status was shared with her. Regarding environment, the patient verified that she felt supported by

her family regarding her treatment. Also, the patient's sister experienced the same condition and her experience was that she could not follow exercise and diet recommendations, and ultimately, had to rely on medication for control of her hypertension.

Case Conceptualization and Treatment Plan

The treatment planning was derived directly from the data obtained from the assessment process (i.e., the psychosocial intake, the HB PQ, and the explanations and clarification produced from the HB PQ review in Session 2 and earlier in Session 3). The case conceptualization that preceded the preliminary development of the treatment goals and plans is presented in a case formulation format that incorporates cognitive-behavioral principles and is based on a format developed by Persons (1989). The formulation helped focus on issues related to the patient's primary identified problem, her difficulty in adhering to her prescribed medical regimen.

The Case Formulation

Identifying information: The patient was a 43-year-old African-American female.

She was a college graduate and a former elementary school teacher. She had been married for 6 1/2 years and lived with her spouse. She had an adult son who resided independently. The patient was employed full-time as an administrative assistant with long hours and significant responsibilities. Additionally, she was a primary caretaker for her ailing mother.

Chief complaint: The patient was first diagnosed with hypertension in March, 2000 and her blood pressure readings had often been in the abnormal high range from that time to the date of referral by her primary care physician. The patient was having difficulty in

adhering to medical advice concerning the treatment of essential hypertension and subsequently, there was a significant health risk.

Problem list:

1. The hypertension was out of control, with blood pressure readings ranging from the normal range to the high and severe range.
2. Employment involved a significant amount of stress, with long hours and demands from the employers and the public. The patient suffered fatigue and stress as a result, in addition to a lack of time to meet her own health needs.
3. The patient's mother was seriously and chronically ill and required a significant amount of the patient's time and attention.
4. The physician had given the patient the ultimatum of either working out regularly or taking medication to control her hypertension. The patient reports that she was unable to work out regularly due to lack of time and energy and that she was unwilling to take any medication.

Hypothesized mechanism: The patient's difficulty with adherence to her medical regimen resulted from her central underlying belief; "There is no time or energy left for my needs after I take care of my responsibilities to others."

Relation of mechanism to problems: The patient worked at least 60 hours per week. Additionally, she stated, "I'm like a private nurse to my mother" (see p. 39). Prior to arriving at work in the mornings, she skipped her own breakfast and went to her mother's home where she prepared mother's breakfast, administered respiratory therapy and an insulin injection and gave mother other required medication and care. In the evening, upon arriving home, often after a 10-hour workday, the patient then prepared dinner for

her spouse. The patient contended that she was too busy and too tired to take care of her own treatment requirements.

Precipitants of current problems: There was a relationship between increased stressors upon the patient and increased blood pressure. As she became increasingly busy and fatigued, she decreased the amount of exercise she performed. Regular and vigorous exercise had been a proven aspect of her treatment regimen that consistently decreased and stabilized the patient's blood pressure. Additionally, the patient had a history of attitudes and behaviors related to medication reflected by her statements, "I won't even take an aspirin or Tylenol" and "I think sleep can cure anything" (see p. 45). Therefore, the utilization of an anti-hypertensive medication was avoided as a treatment option.

Origins of the central problem: The patient was one of 10 children (ranging in age from 40 to 60 years old). Mother was 78 years old and father had been deceased since age 65. Her parents had separated when the patient was approximately 4 years old and the patient had no further contact with her father. The patient's father was alcoholic and her two oldest brothers were alcoholic. The patient had become pregnant at age 17 years old and gave birth to her only child.

One sister had been an insulin-dependent diabetic and died of a brain tumor. The patient's mother had been an insulin-dependent diabetic for at least 20 years, on dialysis due to kidney failure for the past 2 years, and suffered from emphysema. The patient aided the mother daily with respiratory therapy and with her insulin injection. Mother continued to smoke cigarettes.

Mother was living with the patient until 1999 when she began living with the patient's sister. Later, during Session 5 on 10/6/00, the patient revealed that her mother

was in the early stages of Alzheimer's Disease, necessitating increased caretaking during the past 3 years, including preparation of her mother's breakfast at her mother's home. The patient had stated that her mother was "always a diabetic."

This abbreviated family history points to an individual who took on the role of caretaker at a young age, for both her son and her mother. Given the large amount of children in the family of origin, the serious and ongoing illness of the mother, and the history of addiction in the family, the patient may not have gotten the attention she needed. The pattern of assuming excessive responsibility occurred in the patient's current job setting, as well as having occurred in the patient's relationship with her family and with her spouse's family. Mother, siblings, employer, and spouse depend heavily on the patient for support.

Treatment plan: The treatment plan is addressed in the next section and was developed in collaboration with the patient and the physician. The formulation suggested therapy focusing on liberating the patient from the need to take on responsibility for others at the expense of her own health and well-being. Throughout the course of the treatment planning and treatment implementation, the overriding therapeutic intent will be to ensure that the patient and her health and well-being are the center of attention and that the patient's primary responsibility will be to work towards her own recovery.

Predicted obstacles to treatment: The patient had several dysfunctional beliefs that, if maintained, could present obstacles to treatment. She did not believe that she had a chronic medical condition. She had a resistance to medication based on the belief that the medication is addictive. Dependency on medication was something that she feared. She did not consider a diet and exercise regimen as "treatment" (whereas medication did

constitute “treatment” and something she wished to avoid). The patient had difficulty acknowledging the short-term and long-term risks to her health. The patient had no symptoms of the hypertension and this factor makes the condition conducive to noncompliance (see p. 42). The issue of denial regarding her vulnerability, the threats to her health, and the chronic nature of hypertension was one of the major obstacles to treatment. Another major obstacle that could affect treatment and outcome for this patient was her fear of dependency on medication.

Effective August, 2000, when the patient’s blood pressure readings began a continual pattern of being in the elevated range (i.e., 140 and above systolic and 90 and above diastolic), the patient was no longer able to exercise/work-out at least an hour and at least three days per week as prescribed by her physician. In August, 2000, the elevated pressures were related to an increase in the patient’s workload, increased fatigue and decreased energy. The main factors contributing to the patient’s hypertension were identified by her (and corroborated by the physician and by documented blood pressure readings) as lack of exercise, fatigue, and job stress. Fatigue, time constraints, and stress could continue to be major barriers to treatment success.

Therapist	<p>(The next aspect of the session (Session 3) involved the preliminary development of treatment goals and plans. Here, the therapist was engaging the patient in the treatment planning, ensuring that the patient knew that she was expected to participate and collaborate with both the therapist and the medical team.) Now, we get to the part where we talk about treatment planning, treatment goals, and given that you really want to be a participant and collaborate in your own treatment, this is where you get to really think about what you want to do in terms of my intervention, what you want from the physician and what you want to work towards. I know the overriding treatment goal is to decrease your blood pressure.</p>
Patient	<p>Right.</p>

Therapist And to stabilize it.

Patient Right.

Therapist Two things - decrease and stabilize the blood pressure. So, that's the whole objective of our meeting. Now, in terms of target areas, and how to work towards that, this is what we want to discuss. And I want to go over the things that you talked about and that you seemed to indicate you might be interested in when we were doing the first two interviews. OK?

The patient concurred with the following treatment plans:

1. Learning relaxation techniques and other stress management techniques as a response to job stress and other stressors that may be contributing to raising her blood pressure.
2. Regular monitoring of blood pressure, both at home and in the physician's office.
3. Participating in an educational component, both written information and discussion.
4. Discussion pursuant to the issue of dietary monitoring brought out that the patient did not feel the need to make this area a focus of treatment due to the fact that she had educated herself in this area. She believed that she understood a significant amount about nutrition, sodium, etc. Her diet sounded very balanced and nutritionally sound. Her only "weakness" was potato chips and she stated that her intake was "cut back tremendously" since she was diagnosed with hypertension in March, 2000. The therapist decided to verify and quantify this information again during the treatment phase.
5. Time constraints and fatigue are the two major issues identified by the patient at this point, especially concerning the exercise component of the treatment. Treatment will involve problem-solving regarding these identified barriers to compliance.

6. Address dysfunctional beliefs, especially regarding medication. The therapist addressed this issue again and the patient agreed that she is, at this time, not opposed to taking medication if her blood pressure is not “under control”.

It is at this juncture in the session that the therapist stated that the patient had been out of “the safe range” since August, 2000 and that it was now almost two months that the patient has been in an unsafe range of pressure readings. The patient was surprised that the physician considered 150/95 as being high. The patient stated, “140/90, I thought was normal, as normal as whatever normal is, but I didn’t think 150 over 95 he would consider high or medication.” The patient then agreed that she would give the physician the copy of her documented readings.

The therapist, for the final 10 minutes of the session, asked the patient if she would like to participate in “a little experiment.” We would do a relaxation exercise. The patient’s blood pressure reading, taken at home this morning by herself, was 184/112. She agreed to have a clinic technician take a reading after the relaxation exercise (primarily a progressive body relaxation with multiple somatic references, future pacing, and cues for post-hypnotic suggestion). (See Relaxation Induction, 9/22/00, Appendix E). The patient’s response to the exercise was that it “wasn’t long enough.” At the end of the session, the therapist revealed that the experiment was both to ascertain her response to the relaxation induction and to determine if there was any difference in her blood pressure after relaxing.

Current Blood Pressure Reading (9/22/00)

Upon the request of the therapist, the patient's blood pressure was taken at approximately 10:00 A.M., directly after Session 3 with the therapist. A medical technician at the medical facility took it. The reading was 173/120. "When either the systolic pressure is 160 or more or the diastolic pressure is 115 or above, the elevation is considered severe" (Taber, 1993, p. 243). Due to the pressure being in the severe range of hypertension, the patient was advised by the therapist to notify her primary physician as soon as possible. She agreed to do so by 9/23/00.

Report to the Physician

Following is an excerpt from the Report to the Physician (see Report to Physician, 9/22/00, Appendix F). This excerpt provides a detailed summary of the assessment of the patient (i.e., her pre-treatment health status and her personal issues and dynamics), and a concise presentation of the final treatment goal and plans. This material is followed by a discussion regarding the rationale and the empirical bases for the planned treatment interventions.

1. **Diet** - The patient reported that she has educated herself and has subsequently been following a low-sodium dietary regimen.
2. **Exercise** - The patient reported that she had developed her own exercise regimen that involved walking, the treadmill, and leg lifts. She found that when she was able to execute this regimen for about one hour at least three times per week (per her physician's recommendation), she was able to control her hypertension. Her self-monitoring records verified this. From April, 2000 until August 1, 2000, her pressure remained predominantly in the normal range, with the highest diastolic

reading at that time being 90. Subsequently, her blood pressure began escalating again effective August 5, 2000, reaching a high of 173/120 on September 22, 2000 (with this reading taken by a medical technician). The patient reported that her long work hours and extensive care-taking responsibilities for her ailing mother combined to create fatigue and lack of time to perform her exercise regimen.

3. **Medication** – The patient was very resistant to beginning a medication regimen and therefore, was very motivated at this time to seek treatment that provides her with alternatives (i.e. counseling to assist with exercise, stress management techniques, etc.). She understood that exercise and diet might not be sufficient to control her blood pressure, but her resistance to anti-hypertensive medication was rather strong and was based on a belief that, once begun, a life-long dependency upon such medication would be created.

There were other factors that are pertinent to understanding the dynamics and issues involved in the patient's current status regarding her health.

- She was independent (possibly somewhat counter-dependent) and pragmatic regarding her condition and treatment.
- The patient did not believe that her condition was chronic. Though she understood the potential consequences of uncontrolled hypertension, she did not seem to perceive any immediate or long-term risk to herself at present. She saw her health status as stable at present. In other words, she seemed to be either in denial, ambivalent, or uninformed regarding her personal vulnerability and the severity of the health threat to her.

- The patient's sister was currently taking medication for hypertension, after having failed at controlling her blood pressure with diet and exercise.
- The patient wanted information-sharing, inclusion, and participation in treatment decisions.
- The patient desired information in the form of written material regarding hypertension, its nature, and its treatment.

The following conclusions could be drawn from the above-noted information regarding the patient.

- The patient did not believe that she had the ability to perform the treatment regimen as recommended. Her adherence history indicated that she had not followed the treatment recommendations. She identified the only obstacles to adherence to be fatigue and time.
- The patient was highly motivated to find a way to address her hypertension without the use of medication, although she acknowledged that this may not be possible.
- Her independence and pragmatism and her desire to collaborate with the medical team in decision-making could be utilized to promote compliance by working with the patient in a manner congruent with her characteristics and desires.
- The patient required assistance from her treating physician in understanding the nature of anti-hypertensive medication, reassurance regarding same, and, perhaps, a mutual agreement regarding its utilization, should it be indicated, in her treatment regimen.

On 9/22/00, the patient concurred with the following treatment goals and plans:

Treatment Goal: To decrease and stabilize blood pressure.

Treatment Plans – Intervention Targets:

1. Stress management – relaxation techniques with guided imagery, etc.
2. Weekly blood pressure monitoring, at the minimum
3. Education regarding hypertension – provision of written information and discussion
4. Dietary monitoring – low sodium regimen
5. Problem-solving regarding fatigue and time obstacles/barriers to compliance
6. Dysfunctional beliefs regarding medication to be addressed

The treatment goal is simple and quantifiable. The documented blood pressure readings (see Tables 1, 3 and 4), provide the data which substantiates the fact that the patient was able to decrease and stabilize her blood pressure from pre-treatment to post-treatment. The intervention strategies are specific, targeted, and in keeping with empirically-supported cognitive-behavioral treatments, as presented in the treatment model of Meichenbaum and Turk (1987).

Overall, the treatment plan is based on the multi-modal adherence-promoting techniques recommended by Meichenbaum and Turk (1987) (e.g., patient education, self-monitoring, goal-setting, self-regulatory skills, attribution retraining and emotional inducements). The specific interventions were derived from the case conceptualization and the case conceptualization, in turn, was derived directly from the assessment process. For example, treatment intervention target No. 3, education regarding hypertension, can

be traced back to the conceptualization material that stated (1) the patient did not believe that her condition was chronic. Though she understood the potential consequences of uncontrolled hypertension, she did not seem to perceive any immediate or long-term risk to herself at present. She saw her health status as stable at present. In other words, she seemed to be either in denial, ambivalent, or uninformed regarding her personal vulnerability and the severity of the health threat to her at the present time; (2) the patient wanted information-sharing, inclusion, and participation in treatment decisions; and (3) the patient desired information in the form of written material regarding hypertension, its nature, and its treatment. The conceptualization regarding these patient dynamics and issues related to the need and the desire for information and education was derived from all of the flagged questions (see Appendix C) related to chronicity and all of the flagged questions that express an explicit desire for information and education.

In addition to examining the efficacy of the proposed treatment modalities, it is equally important to examine the actual content of the treatment regimen, the medical implications vis-à-vis the patient's health outcome. An optimistic and realistic outcome expectancy is a critical factor in this patient's motivation and subsequent compliance in performing the recommended target behaviors. Rosen, Brondolo, and Kostis (1994) conducted an extensive review of controlled studies related to the use of nonpharmacological therapy, especially lifestyle modification in the areas of diet, exercise, and relaxation and stress management. Treatment interventions related to these areas were evaluated both as individual treatments and in combination with other treatments (e.g., comparison of exercise with and without salt restriction, relaxation versus blood pressure biofeedback versus self-monitoring versus drugs, or progressive

muscle relaxation and autogenic training versus drug treatment). Overall, the evidence points to an association of lifestyle modification with reduced overall cardiovascular risk and improved quality of life.

Rosen, Brondolo, and Kostis (1994) reviewed eleven randomized, controlled studies on the effects of salt restriction for hypertension. Positive effects were demonstrated, ranging from mildly positive to significant. These authors also report that several experimental studies have shown positive and clinically meaningful blood pressure changes associated with aerobic exercise (such as swimming, walking or jogging, or bicycling). However, the authors conclude that it is not yet certain that aerobic exercise is an effective sole intervention for hypertension due to design deficits in the studies thus far (e.g., small sample size, inadequate follow-up assessment, and insufficient treatment controls). Additionally, several investigators have demonstrated positive results with relaxation or stress management techniques (utilized alone or in conjunction with other interventions). However, the findings are not consistent.

Regarding combined non-drug therapy, Rosen, Brondolo, and Kostis (1994) found relatively few studies on the effects of combined or multifaceted therapy (e.g., dietary change, exercise training, and stress reduction compared with both medication and placebo controls). They note that this is a surprising situation given the potential of a combined approach. However, based on their evaluations of the existing studies, the authors contend that this multifaceted strategy is optimal for treating Stage 1 or Stage 2 hypertension (i.e., blood pressures lower than 179 mmHg systolic and 109 mmHg diastolic). The primary limitation of this approach, apart from a potential lack of efficacy, was that most patients had a need for long-term maintenance and follow-up

treatment. For non-responders to the lifestyle modifications alone, diet, exercise, or stress management techniques are recommended as adjunctive therapy and as a means of reducing the number or dosages of medication required. In summary, Rosen, Brondolo, and Kostis (1994) conclude that non-drug approaches “are increasingly recommended for Stages 1 and 2 hypertension, either before or as an adjunct to, pharmacological therapy” (p. 100).

CHAPTER 3

TREATMENT

Telephone Conference with Physician (9/25/00)

The therapist initiated a telephone contact with Dr. K. B. in order to follow-up on the patient. He reported that he had not seen or heard from the patient regarding her elevated blood pressure. He intended to contact her and arrange to see her that evening.

The therapist verbally reviewed findings regarding the patient and the treatment plan was discussed (see Report to Physician, 9/22/00, Appendix F). The physician agreed with the recommendations, as presented; and in addition to stress management, and information and education, he endorsed a plan that would allow the patient to be able to work the exercise regimen into the patient's regular workday schedule. He understood that this might involve communication with the patient's employer, if necessary.

The therapist questioned the physician about anti-hypertensive medication and dependence in terms of the necessity of life-long continuation. Dr. K. B. replied that though some medical providers believe such medication is for life, he does not. In response to the high blood pressure reading, which the therapist reported, the physician was going to prescribe a diuretic. "It does not necessarily mean it's forever."

The therapist also advised the physician of the patient's familial history of diabetes (and also of the status of the patient's mother's health in terms of the necessity of the patient being the caretaker on a daily basis). Additionally, the physician was

informed that the patient had not had a complete blood work-up done in 8 years. The physician decided to do a blood panel also on the next visit.

SESSION 4 (9/26/00)

The therapist, as she will do prior to beginning each treatment session, reviewed the agreed-upon treatment plan in order to insure the incorporation of the interventions into each session. Then, Session 4 began with the therapist informing the patient that the physician was consulted on 9/25/00, that he reviewed the findings and approved the treatment plans. The patient stated that she met with the physician on the evening of 9/25/00. The outcome of the appointment was that her pressure was, to her recollection, 150/92 that evening. She reported that they, she and the physician, decided that she would leave her office a little early three days a week and go to an exercise facility and exercise for at least an hour. She also had an EKG and blood work performed and was awaiting the medical report.

The therapist next began the education component of the treatment by reviewing risk factors for hypertension, both those which the patient could not control (i.e., heredity, race, gender, etc.) and those which she could control (i.e., diet, activity level, smoking, etc.). Next, the patient was presented with the health risks of uncontrolled high blood pressure and given the suggestion by the therapist that “by the time you get done reading this, you will be ready to do whatever the doctor tells you to do.” The therapist was attempting to disabuse the patient of her false sense of security regarding current and long-term health risks. The therapist was introducing a “fear message” to the patient (Meichenbaum & Turk, 1987).

Therapist	Now this last one, healthy lifestyle changes - reduce weight to ideal. You don't have an issue of obesity or even overweight.
Patient	No.
Therapist	OK. Excellent. That is one. If you smoke, quit.
Patient	No.

Therapist Excellent. That is number two down. Reduce salt intake. Three down. Drink very little alcohol. Four down. It says if you do, limit it to no more than two 24 ounces.

Patient I don't.

Therapist Well, it's usually two drinks a day, but women even less.

Patient I don't drink at all.

Therapist OK.

Patient So it doesn't apply to me.

Therapist Excellent. So we got 1, 2, 3, 4 already covered. **(The patient was reinforced for having independently addressed many healthy lifestyle recommendations for keeping hypertension under control (e.g., no smoking, maintaining ideal body weight, reduced sodium intake, alcohol abstinence, and nutritional standards of high fruit and vegetable and low fat intake). The lifestyle targets that the therapist focused on were "exercising regularly, taking your medications, and following your doctor's instructions and relax.")**

Patient That I do.

Therapist Fruits and vegetables and less fat. That's five that are covered. Now, these last three are our targets. I mean you are way ahead of a lot of people. Exercise regularly, take your medications, and follow your doctor's instructions and relax. This is where it gets interesting. Emotional stress raises blood pressure. Some studies have shown that relaxation techniques have little effect, but one study in African Americans produced significant blood pressure reductions after three months, so.

Patient Just relax, huh?

Therapist Yeah. So we are going to keep working on that stress management and relaxation exercise. I can tell you I have seen dramatic, dramatic improvements here in this office with people with high blood pressure.

Patient Just by relaxing?

Therapist Just by doing this. Um, now, did the doctor talk to you about starting medication? **(After discussing the potential advantages of stress management, the therapist again raised the issue of medication.)**

Patient Ah, yes.

Therapist What was the conclusion?

Patient The conclusion was that if I had three consecutive pressures where the bottom number is higher than 90, I am to take a medication that he prescribed, not every day, just like every day when I take my pressure, if I notice on Monday, Tuesday, and Wednesday that the diastolic number, the bottom number?

Therapist Right, Diastolic.

Patient Yeah. If that is higher than 90, I have to take the medication. **(The patient had made a critical decision, a commitment to take medication, if indicated. She had reached an agreement with the physician, a compromise that would address and alleviate her fears of dependency on medication.)**

Therapist	Right. OK.
Patient	And keep taking it until I can get it back to, what 90? As long as its not over the 90.
Therapist	OK.
Patient	Did you understand that?
Therapist	I did. Now, you would just take it...
Patient	I would just take it...
Therapist	Until it normalizes.
Patient	Right.
Therapist	OK.
Patient	Exactly.

The patient informed the therapist that the medication that she had been prescribed was Dyazide, a diuretic. The therapist offered to obtain more information about this medication for the patient (from the Physician's Desk Reference) and additionally, suggested that she obtain the insert/pamphlet on the medication from her pharmacist. The patient was agreeable and expressed a desire for this information. The therapist viewed that as in keeping with the patient's profile of wanting to be informed, educated, and empowered. The issue of life-long dependency on the medication was discussed and the patient noted that she was reassured by the physician that it was "not necessarily true" that she will need to continue medication if she was able to normalize and stabilize her blood pressure.

At this point, more educational information was given by the therapist about various recommendations for exercise (obtained from organizations such as the American Heart Association. See Appendix G for sources). Many options were put forth, such as; a brisk walk, gardening, bicycling, swimming, breaking up the exercise time into shorter periods, working up to the desired pace, and varying activities. The therapist kept in mind that this was a patient who desired choices/options, independence, and participation in decision-making.

- Therapist **(In the following excerpt from this session, the therapist reviewed the patient's schedule and responsibilities, and empathized.)** I mean, you had developed that on your own. You were saying that you use the treadmill. Now, here is what I discussed with your doctor as an option, because I don't know if he is aware of what your schedule is like, but you shared with me that it is really grueling and exhausting. I mean, I know that you get up at 5:00; you make breakfast for yourself and your partner-spouse.
- Patient Spouse. I don't eat breakfast that early.
- Therapist OK.
- Patient I skip breakfast. I get up to make breakfast for my mother. I have to go to her house to make breakfast for her.
- Therapist OK. And give her insulin?
- Patient And give her insulin, breathing treatment, medication.
- Therapist Oh. You give her breathing treatment too. So you do a whole job before you even get to work. I mean you are working as a nurse, aren't you?
- Patient Yes.
- Therapist OK. And then you'll put in a 10-hour day sometimes?
- Patient Right.
- Therapist Six days a week?
- Patient Right.
- Therapist OK. And then he is saying you go and workout for an hour somewhere.
- Patient And then come back to work.
- Therapist **(Again, the therapist offered the following suggestion in a manner that was non-authoritarian and kept in mind the patient's desire for choices and participation in decision-making.)** And then come back to work? OK. Here is another idea that you might want to try. You can't if you can't. OK. Here is the idea that I have had, because I know people who have done this, and I just left a job where someone I worked with did this. She would come to work and around somewhere between coming in and lunchtime, somewhere around the middle, she would go out and take a 15-minute power walk, I mean a really brisk power walk. I watched her. She was like Beep Beep the Road Runner going up and down Broad Street and she would take that power walk and she would come back all pumped up and invigorated and then go back to work and then, in the afternoon she would do the same thing, another 15 minute power walk and there was the 30 minutes and then instead of taking the subway or the bus to her stop, she would walk. The last power walk would be to get to her bus that took her back to New Jersey. So she was really taking three power walks a day. And I was really amazed at how she was able to work it in and instead of being tired she was really pumped up and invigorated and I had mentioned this as an option to the doctor. I mean, he would, if you wanted, he could write a note to your employer... **(The therapist provided problem-solving strategies to overcome obstacles and introduced a role model as an example (Meichenbaum & Turk, 1987).)**

- Patient Right.
- Therapist Asking that you be given regular breaks of 15 minutes each for these power walks. Now, I don't know whether you like that idea.
- Patient That's a good idea.
- Therapist But I thought it was great because, in that way, it is giving you a break from the stress of your job.
- Patient Yeah.
- Therapist It is doing a few things. **(The power walk would serve the dual purpose of exercise and stress management.)**
- Patient Sometimes I do that anyway. I just get up and go for about 15 minutes.
- Therapist And you do.
- Patient It is not a brisk power, but it is a walk.
- Therapist Yeah, just to relax and get out.
- Patient And come back and then I am fine.
- Therapist Yeah.
- Patient Yeah. So, that is a good idea. I like that idea.
- Therapist Yeah. Because I think to leave work for an hour three times a week is going to take a lot of energy. I don't know if the doctor realizes how tired you are. I mean...
- Patient It is going to be a little longer than an hour, because I have to get there. **(Here the patient is referring to the obstacles in getting to an exercise facility.)**
- Therapist Exactly.
- Patient Get back.
- Therapist Exactly.
- Patient I have to shower there.
- Therapist Right.
- Patient And I want to come back.
- Therapist Yeah. See, I really - that doesn't sound - does that sound feasible to you? **(The therapist stopped herself from drawing conclusions that would best be drawn by the patient, being careful not to be perceived as making decisions for the patient. Following this, it is evident that the patient, employing self-regulatory skills, had engaged in problem-solving and had developed a strategy to overcome obstacles. She became animated and engaged in planning her strategy to participate in an exercise regimen.)**
- Patient I had suggested that on certain days when I can just leave early....
- Therapist Um huh.
- Patient Instead of working the 10 hours, if it is not a really busy day, I can just leave early...
- Therapist Um huh.
- Patient Go exercise and then I could go home from there.
- Therapist Right.
- Patient That way I don't have to come back to work so instead of just leaving and coming back, try to find an exercise place close to home or, you know, in

- Therapist Center City or something where I can go and work out and not have to worry about rushing to get back. So, that is what I am really trying to do. So that is one way to do it. But then you have, again, the added energy that you'll need to get there.
- Patient But that would be worth it.
- Therapist OK.
- Patient It would be worth it. Just to do that, because that is where I feel as though I am not getting enough exercise and because of the number of hours, if I have a letter or note from my doctor saying that, you know, it's vital for my health that I go a little early just to exercise, and that would make a big difference, all the difference in the world.
- Therapist All right, and on days when you don't do that? **(The therapist was engaging the patient in contingency planning.)**
- Patient Then on days I don't do that, I can take those power walks.
- Therapist Oh, they are great.
- Patient I can take those anyway.
- Therapist You don't even need a note to your employer.
- Patient Right. Just take my little breaks.
- Therapist Take your breaks and just walk.
- Patient Take my little breaks or lunch breaks and just walk.
- Therapist OK. I mean, I am really optimistic about that being very effective because...
- Patient Or there is going to be some days when I really don't feel like going to the gym and the power walk will fit right in because I really don't have to go too far.
- Therapist Well, I just wanted to share with you that everything I read so far is really pushing that idea of 30 to 40 minutes a day, and they really seem to like the brisk walk as an exercise that's pretty harmless in the sense of pulling muscles... **(It is important that the patient approach the exercise regimen in an incremental fashion.)**
- Patient Pulling muscles. Right.
- Therapist Overdoing.
- Patient Right. I have to be careful in a high-impact aerobics. I haven't done it in two years. They suggest that if you start off in a high-impact you can cause some damage.
- Therapist Well, this will get you in shape and build up. It is aerobics, a brisk walk. Now high-impact aerobics, what does that mean?
- Patient That is just when....
- Therapist How is that different from aerobics?
- Patient Well, it is more bouncing and jumping. You get your cardiovascular up to a higher level than walking at a shorter time. That is all.
- Therapist Right. OK.
- Patient Because it was never high-impact anyway. So, it doesn't matter.
- Therapist Well, I know your doctor is a high-impact kind of a doctor.
- Patient Yeah.

- Therapist And kind of a man that runs marathons. **(The therapist knew that the patient had a great deal of respect for her doctor and that he would serve as an effective role model for her in terms of physical fitness.)**
- Patient And everything will be documented on a calendar that I am preparing to keep and show him in two weeks.
- Therapist He wants you to monitor what you are doing and how much time you are spending? **(The monitoring and documentation were a critical aspect of the intervention strategy.)**
- Patient Yes.
- Therapist OK. Well that shouldn't be difficult.
- Patient Nope.

The patient informed the therapist that she was scheduled to get blood work and an EKG done later that day at the medical facility.

- Therapist **(The therapist wanted to make certain that the patient understood the collaborative nature of the treatment, not only between patient and therapist, but that the physician is included.)**
It sounds like a lot is going on. I have to share with you that I did review your family history with him because I wasn't aware if he knew that you have diabetes on the maternal side. That is very important that he knows that because he has got to check. I mean, that might have triggered this blood work issue.
- Patient Yeah.
- Therapist Which is good. I am glad to hear you are getting that done. So, I don't want to be discussing anything with him behind your back...
- Patient No.
- Therapist I want you to know exactly what we talk about. **(It was important to continuously reassure the patient regarding her inclusion as a member of the treatment team.)**
- Therapist **(The therapist wanted to revisit the relaxation exercise. After the last attempt at a relaxation induction on 9/22/00, the patient's blood pressure was higher than ever (i.e., measured at 173/120 after Session 3 concluded). The suggestions began without the therapist inducing a formal state of deep relaxation and the expectation was that the patient would not feel the pressure/anxiety of performance that can accompany formal requests for behaviors.)**
Now, how are we doing on time? All right. What I'd like to do is, each time you come in, we'll do a little relaxation exercise, so that I think, in a very short amount of time, your body will learn just how it feels to be deeply relaxed. In other words, your cells, your molecules, every part of

you, has a memory and your body will remember what it feels like. And eventually, you will be able to be anywhere, whether it is walking down the street, or sitting at home, or in your office, and any time you feel tension, you'll notice it and you'll be able to bring back that feeling of relaxation. You'll know how to loosen and soften the muscles and what they feel like when they are totally relaxed and what your mind feels like when it's relaxed. So, what I am saying is, the more you practice and the more you do this, the easier it will get. And I would like to start out by telling you that no matter how deeply relaxed you are, your mind is still working, and your ears are working, so that if any thing that comes up, anything that does come up that needs your attention, like the telephone ringing, or whatever, you will just tell yourself that you are alert and refreshed, and you'll open your eyes and you'll be able to take care of anything. So, you don't need to worry about becoming out of touch with your world unless you fall asleep.

Patient (laughs)

Therapist But even telephones wake people up who are asleep, too. **(These suggestions were to reassure the patient regarding her control and self-regulation.)**

Patient Right.

Therapist The other things that I would like you to know, that I'll be just giving you suggestions, and anything that I suggest, that you don't in your heart, find in your highest welfare, you don't have to accept the suggestion. You can just reject it. So you are free to accept or reject any suggestion. And I always like to take it two levels deeper. And that is to say that out in the world, you will have other people making suggestions and its nice to listen to them, but you know that you don't have to accept suggestions from others. But there is a third level that is even more mysterious and that is the fact that sometimes you make suggestions to yourself, which is an interesting thing to ponder, and what I like to do is to have people give themselves permission to reject their own suggestions. Do you know what I mean? **(The therapist was referring to dysfunctional thoughts that the patient can reassess and alter.)**

Patient Yeah.

Therapist OK. And then, the last thing is that you are hearing all kinds of sounds here. I mean close your eyes for a second, and you can hear the sound of traffic going by, and there might be phones going off here in the office and people talking or walking by and I'd like you to just focus on the sounds. Like what do you hear now? **(The various disturbances and distractions were reframed and incorporated into the induction.)**

Patient A trolley.

Therapist A trolley. So, it is something that is safe and familiar. So, once you have identified it, it is safe and familiar and you can just let it fade into the background and make you even more relaxed because of its familiarity. You hear another trolley or something? OK. Just let it come, identify it, and then let it go. And I'd like to start by having you focus again, as we

did the other day, on the space between the bottom of your feet and the floor, which is an interesting space to ponder. And then, I don't how you like to imagine tension, maybe as a harsh color, or a knot, or a sound, or a place, a feeling. But however you imagine tension, imagine it floating out the bottom of your feet. And now, I'd like you to imagine relaxation. Some people imagine relaxation as a soft fluffy cloud, or a healing color like blue or violet, or a place, or just a feeling, one feeling. But however you imagine relaxation, let it float in through the bottom of your feet and just fill your feet. And see if you don't notice a difference now in your feet as they soften, and the muscles just relax. And then slowly move up to your ankles and let the tension leave your ankles, float down and out the bottom of your feet. And let the relaxation flow in. As your ankles become relaxed, there is difference that you feel. And then, slowly move up to your calves, your lower legs. Just let that tension float down and out, and relaxation flow in, as your calf muscles just soften and loosen, kind of melt and relax. And then the relaxation flows up into your knees. The tension leaves, the knees relax, and you can feel yourself fully supported by that chair that you are sitting in, so you really don't need to hold any tension in your thighs, or your lower back, or your pelvic area. You don't need that muscle tightness. You can let it go. Let it float down and out and away and let the relaxation move in, as your lower body just relaxes and loosens and let the relaxation spread up in to your stomach and swirl around your stomach, as your stomach muscles soften, relax, and the relaxation spreads up into your chest, as you breathe regularly, and easily, and your chest muscles relax, and the relaxation spreads up your neck, and down your arms, across your shoulders and down your arms into your hands and fingers. And you might have a warm sensation as the relaxation spreads through your body, or you might have a tingling sensation. I don't know. But whatever you feel, just enjoy it, as the relaxation spreads up your neck and into your forehead and scalp. And you might imagine gentle little fingers massaging your forehead, as those muscles just loosen and soften and smooth out, and the relaxation just washes over your face, like a gentle breeze, that your eyes are relaxed, your nose, your cheeks, your mouth, your jaw, and your chin relaxing further and further, and if there is any area or areas in your body that aren't as relaxed as the rest, just go there in your mind, and imagine breathing into it, deep healing, soothing breath that just softens and loosens everything. And you might want to picture yourself walking down the street on a beautiful day like today, the sun shining and the air is crisp and cool and clean and you are feeling good, but maybe you are not as relaxed as you would like to be, and you notice that you are not, and just feel that you can be more deeply relaxed. All you'll have to do is give yourself a signal to bring back these feelings, and that could be taking a few deep breaths. So, do that. Take a few deep breaths and let the tension go. Let anything that is left that is bothering you just blow away. And then touch your forefinger to your thumb, in a little motion. Just a soft, little touch. Nobody will notice.

Only you'll feel this little touch, and that is your signal to let yourself feel calm and tranquil and serene. It is a nice feeling, and the more you practice, the deeper you will go, the deeper you go, the better you will feel. It is a good feeling. Just enjoy it. And when you are ready, I'd like you to picture the numbers 1 through 3 in your mind and when you see number 3, you tell yourself that you are refreshed and alert and very relaxed and you will open your eyes and you will be. So, do that now. Picture the numbers. Tell yourself, refreshed and alert and wide awake, very relaxed, and open your eyes.

Patient I am not wide-awake.

Therapist You are not wide-awake?

How was it for you?

Patient Good.

Therapist Did you have any trouble relaxing any part of your body?

Patient Oh no.

Therapist Did you have any trouble visualizing yourself walking down the street? Were you able to actually picture yourself walking down the street? **(The willingness of the patient to have accepted suggestions given by the therapist, in addition to her ability to visualize, were good indicators of her capacity to benefit from guided imagery and other relaxation techniques.)**

Patient I saw myself.

Therapist You saw yourself? What did you see when you saw yourself?

Patient Just going. Just moving, not looking back. Just going.

Therapist It felt good?

Patient Yes.

The patient reported that she was able to relax her entire body and was able to fully visualize when visualization was suggested. She then stated that she would be interested in hearing audiotapes of relaxation exercises. Based on the patient's stated preference for the ocean as a relaxing environment, the therapist agreed to bring one in for her the next treatment session.

The patient volunteered that she was beginning an exercise program on 9/27/00 at a local fitness center. Her plans included leaving work early.

Patient So. We'll see if I can get to leave work early and exercise for about an hour or two. **(The therapist then led the patient to commit herself to begin "power walks" that day, 9/26/00.)**

Therapist OK. Would you be interested in starting your power walks today?
 Patient I probably will.
 Therapist Do it!
 Patient Yeah, because I have to go to the drug store, I always walk, I walk to the bank and that is on 34th Street and I always walk. I walk everywhere.
 Therapist OK. The power walks start today and the intensity...
 Patient The intensity starts tomorrow.
 Therapist So in between the intense, you'll be...
 Patient Yep.
 Therapist Building up with the power walks. **(The concept of an incremental approach regarding the exercise regimen was again reinforced, both for the purpose of safety and for establishing increased patient efficacy.)**
 Patient That's true.
 Therapist Excellent. I am very, very hopeful.
 Patient So am I.
 Therapist And you get your Dyazide and I'd appreciate it if you would bring in the insert...
 Patient OK.
 Therapist They give you, so that I can read about it, too.
 Patient OK. **(Both parties (patient and therapist) agreed to get information about Dyazide and to bring it to the next session (on 10/6/00). The therapist was careful not to establish herself as the authority figure or the expert regarding the patient's health, but rather as a collaborator, a consultant, and a member of a team.)**

The session ended with the patient revealing that her history included lifetime memberships in fitness clubs, but that she discontinued attendance three years ago due to longer working hours and her mother's deteriorating health.

Telephone Conference with Physician (9/26/00)

Dr. K. B. telephoned the therapist to update her on the medical appointment with the patient on 9/25/00 in the evening. He had reviewed her blood pressure readings from 2/00 to the present and agreed that there was cause for concern. She seemed to have "episodic, sporadic hypertension." He was pleased that the patient planned to incorporate exercise into her workday.

Also, last night, 9/25/00, the patient had significant tachycardia, a heart rate of 100. The physician performed a cardiogram and was pleased that the EKG "confirms that everything is okay." The patient's heart was not enlarged. He speculated that the patient had some "test anxiety." He also had drawn blood and was awaiting the results of the blood work.

SESSION 5 (10/6/00)

The patient reported that she had three “good workouts” this weekend. She revealed that she did vigorous exercise at the fitness club when her pressure was 138/98 on 9/26/00 and 170/108 on 9/27/00, the day of the vigorous exercise. (See Table 2 for patient-documented blood pressure readings and exercise schedule.) The therapist was concerned that blood pressure was not monitored at the fitness center and inquired whether the physician informed the patient about blood pressure levels at which she should not be doing strenuous exercise. The therapist decided to contact the physician regarding this issue. On 9/28/00, the patient’s pressure was 156/110. On 9/29/00, the patient stated that she took the medication as she had agreed. She said, “And I was instructed by the doctor that if I have three pressures, the bottom number being over 90, to take the medication, which I did.” On 9/29/00, prior to taking the medication and exercising, the patient’s pressure was 139/118. On 9/30/00, the patient’s pressure normalized (123/81) and remained in the normal to near-normal range to the present.

All of the “power walks” were taken during work hours, during breaks. When the therapist asked how that was working for her, she replied, “It works out good. It works out perfect. I am like a different person when I come back.” The discussion continued as follows:

Therapist	You’re energized?
Patient	Yep, feel better.
	Now today is Friday, which is October 6 th .
Therapist	Right.
Patient	I took my pressure this morning. It was 128 over 78.
Therapist	Uh huh.
Patient	So it has been pretty good.
Therapist	Yes.
Patient	And I have only taken the medication that one day.
Therapist	Huh. So what do you conclude from all of this?

TABLE 2

**Blood Pressure Readings with Exercise Schedule During
Treatment (9/26/00 – 11/10/00)**

Date	Systolic	Diastolic	Exercise
9/26/00	138	98	30 minute power walk
9/27/00	170	108	30 minute power walk 15 minute machines and warm-up 45 minute Advanced Step Class
9/28/00	156	110	30 minute power walk
9/29/00 (medication)	139	118	30 minute power walk 30 minute workout
9/30/00	123	81	30 minute power walk
10/1/00	112	73	30 minute power walk
10/2/00	118 142 (office)	73 90	30 minute power walk 60 minute High & Low class
10/3/00	121	73	30 minute power walk 60 minute High & Low class
10/4/00	123	84	
10/5/00	105 173 (office)	72 89	30 minute power walk
10/6/00	128	78	30 minute power walk 45 minute High & Low class
10/7/00	147	75	
10/8/00	124	73	30 minute power walk
10/9/00	136	75	15 minute warm-up 45 minute Advanced Step Class 30 minute treadmill
10/10/00	140	81	
10/11/00	128	86	40 minute Advanced Step 30 minute treadmill
10/12/00	142 156 (office)	72 98	30 minute power walk
10/13/00	124	91	30 minute power walk
10/14/00	136	94	30 minute power walk
10/15/00	113	76	30 minute power walk
10/16/00	113	84	30 minute power walk
10/17/00	113	72	
10/18/00	142	92	30 minute power walk
10/19/00	148	92	30 minute power walk
10/20/00 (medication)	142	92	
10/21/00	138	82	30 minute power walk

Date	Systolic	Diastolic	Exercise
10/22/00	136	73	30 minute power walk
10/24/00	131	80	4 hour walk
10/25/00	107	52	4 hour walk
10/26/00	112	76	2 hour walk
10/27/00	120	72	30 minute power walk
10/28/00	124	75	
10/29/00	120	83	30 minute power walk
10/30/00	120	73	30 minute power walk
10/31/00	137	86	30 minute power walk
11/1/00	118 150 (office)	89 95	45 minute workout
11/2/00	107	59	30 minute power walk 45 minute workout
11/3/00	104	70	30 minute power walk
11/4/00	147	84	
11/5/00	145	81	30 minute power walk
11/6/00	136 157 (office)	84 102	45 minute High & Low class 30 minute power walk 30 minute treadmill
11/7/00	131	91	30 minute power walk
11/8/00	124	86	45 minute High & Low class 30 minute bike
11/9/00	142 158 (office)	80 102	30 minute power walk
11/10/00	137	67	30 minute power walk
Mean	132.13	83.19	
<u>SD</u>	16.46	12.47	

- Patient Exercising works. (Laughs)
I am going to do a 30-minute power walk today and about 45 minute high and low class.
- Therapist OK. Um, How do you feel about having had your blood pressure very much out control and then after taking the medication, it seems to have changed dramatically. Do you think that had much to do with it? **(The therapist introduced the medication issue again and was careful to allow the patient to draw her own conclusions regarding its efficacy.)**
- Patient I would say the first day it may have. But I don't think it had the effect, lets say, staring October 1st, because I haven't taken the medication.
What? Only that one day.
- Therapist Right. But I see it was 139 over 118 on the...
- Patient On that morning.
- Therapist On that morning. And then by the next morning it was 123 over 81.
- Patient Right.
- Therapist That is a dramatic difference.
- Patient Yeah. I think the medication has a lot to do with that at the time. But starting the week of October 1st, I would say it was more of the exercising than the medication. **(The patient had learned that exercise had an on-going dramatic effect on stabilizing her blood pressure if the activity was maintained. She also understood that medication, if taken only once (on 9/29/00), had an immediate positive effect.)**
- Therapist It's a dramatic, dramatic difference.
- Patient Yeah. Yeah, I know.
- Therapist I am so pleased with your progress. How do you feel about it?
- Patient Pretty good, and I knew that probably part of the problem was because, on the months that we first discussed my pressure, and the three months that it was fine, and then it went up high, I was able to exercise during those three months. **(Here the patient is referring to 3/30/00 to 8/1/00. Actually, this represents four months of normal and stable blood pressure. Her positive results at that time were due to having been adherent with a fairly regular and vigorous exercise regimen. This was a good indicator for future health outcome with adherence to the same regimen.)**
- Therapist Right.
- Patient And that is when it dropped.
- Therapist And then you couldn't...?
- Patient And then I couldn't.
- Therapist Do it because of your work responsibilities?
- Patient Right. And then I couldn't do it because of my work schedule.
- Therapist And because of.... When did you start taking all that responsibility for your mother's health care?
- Patient Well, the responsibility for my mother's health care has been in the last really 10 years.
- Therapist Um.

- Patient Not as drastic as it is in the last three years. Three years is when she basically was not really able to prepare breakfast or remember to take.... She is like the first stages of Alzheimer's, I would say, so....
- Therapist Oh, OK.
- Patient So, basically, every...She can still do those things on her own. But is monitored a lot more closely in the last three years than she had been.
- Therapist OK. So the Alzheimer's affects her ability to do....
- Patient Right. Yeah.
- Therapist All the things. I mean, her regimen must be pretty complicated anyway.
- Patient Yeah. It is.
- Therapist Even if she were very healthy and sharp.
- Patient Right. She was always a diabetic, always. She was able to remember when to take her medication, when to give her insulin, could cook for herself, basically do everything for herself, except for the last three years, I would say.
- Therapist Does she have other help besides you? **(The therapist was concerned about environmental support and resources to help the patient alleviate the obstacle of excessive responsibility for caretaking.)**
- Patient Yes. I have a sister that she is living with now. She was living with me up until the last year.
- Therapist Oh, OK.
- Patient Because my sister only works part time. So she is able to be with her longer than anyone else. I've got plenty of help.
- Therapist So that is good. So your sister takes a lot of....
- Patient Right.
- Therapist Oh, that's good. I'm glad it doesn't all fall on your shoulders.
- Patient No. I am the person Monday through Friday as far as breakfast, insulin, medication. Then I have another sister and a brother that sits with her, a brother that sits with her on Tuesdays until she goes to dialysis, a sister that stays with her on Thursday until she goes to dialysis. And the rest of the week my other sister is home. Because she works with the School Board so she is off at two.
- Therapist What is the breathing...
- Patient The breathing?
- Therapist Exercise, that she has to....
- Patient She is on a breathing machine to get all the mucus and stuff from out of her lungs. So that is like 15 minutes, twice a day.
- Therapist Is that from the kidney disease that causes that?
- Patient No. That's from bad lungs, from years of smoking.
- Therapist Oh. Does she have emphysema or...
- Patient Yeah.
- Therapist Emphysema, too.
- Patient Yeah.
- Therapist Oh. All right. You guys have your hands full with mom.
- Patient Yes. **(The patient had been very slow to reveal personal information regarding family, and regarding her emotional life. The above**

discussion pertaining to the fact that mother was suffering from Alzheimer's Disease, emphysema, diabetes, and kidney failure and how her mother's care requirements had increased during the past three years, gave the therapist added appreciation of the degree of emotional stress with which the patient had to cope. It was revealed in the psychosocial intake evaluation that the patient considered herself to be very close to her mother.)

The therapist next turned the discussion to restate how effective the patient's efforts had been in terms of monitoring and documenting her blood pressure, medication intake, and activity level, believing that repetitive positive reinforcement was beneficial for the patient. She responded well to this reinforcement and praise, as was evidenced by her behavior, verbal responses, and body language.

Next, the educational component of the treatment plan was addressed. The therapist informed the patient that a large amount of information about hypertension was being shipped, but for the present, the therapist wanted to talk again about the medication. She stated, "Because I really think you want as much information as you can have about everything that you do in your life." The patient confirmed this contention.

Therapist Well. I see you handed me this from your pharmacy. Rite Aid gave you a really nice printout on the Dyazide and it talks about its uses, how to take the medication, the side effects, the precaution, drug interactions, notes, what to do if you miss a dose, and how to store it. What did you think when you read this? Did it give you pretty much what you wanted?

Patient Yeah, well, Yeah, I didn't think of it as a water pill, for one thing.

Therapist Yeah. **(It was evident that she was benefiting from information obtained about the medication and she expressed a desire to learn more.)**

Patient Even though I know diuretic is a water pill. But I said, "Water pill, how can that help?"

The patient was given a printout pertaining to the patient's medication from another pharmacy with much of the relevant material highlighted by the therapist.

Stress management was the next agenda item raised by the therapist. This was one of the six target interventions that was focused upon during each of the treatment sessions, with these targets having been agreed upon by the patient, the physician, and the therapist when the treatment plan was developed (see Appendix F). The timing of the presentation of each intervention was based on the patient's readiness and responsiveness as evidenced by the data which she presented both by documentation and by self-report.

Therapist	Now, were you able to do any stress management or relaxation?
Patient	No. Only when I am walking.
Therapist	What do you do when you are walking?
Patient	Just focus on pleasant things. It is just nice to get out and walk, just to leave the office for a few minutes. That right there is....
Therapist	That is a stress reliever. (The patient was very involved in the Action stage of behavior regarding stress management activity (Prochaska, DiClemente, & Norcross, 1992).)
Patient	Yes. Exactly.
Therapist	Excellent. OK. Well, you are on to it. Are you finding any obstacles now or barriers to be able to do what you are doing? All these changes in your... (Inquiry regarding barriers/obstacles to compliance was critical to identifying problems and addressing them.)
Patient	Do I find any...
Therapist	Any problems in being able to do what...
Patient	The only problem I have is if someone doesn't show up for work...
Therapist	Um huh.
Patient	Then it restricts me because, I'm not, I can't leave the office to go for even just a simple 15-minute or 20-minute walk...
Therapist	Um huh.
Patient	Which I find helps me a lot.
Therapist	Right.
Patient	So I get very frustrated when I can't do that.
Therapist	OK. How about the fitness center? Are you able to leave work a bit early to get there?
Patient	Yes. On Mondays, Wednesdays, and Fridays, but not the following...Last Wednesday I couldn't...
Therapist	So. Those are the three days at the fitness center.
Patient	Right. Those are the three days and again, providing that everyone shows up for work.
Therapist	Right. That's a big...
Patient	Right. That's just a big...
Therapist	Variable - people showing up.
Patient	Hopefully that will, you know, work itself out eventually.

The therapist again stated her intention to contact the physician in order to clarify the issues of safety when doing vigorous exercise with elevated blood pressure.

- Therapist I mean, to see the results, because there is not always that instant or positive result. Sometimes people have to spend a long time before they see a positive outcome and sometimes people do everything they are told and they still don't have the positive... **(The therapist injected the idea that 100% compliance does not always lead to the desired outcome in order to allow for this eventuality. It was important that the patient would not, at any point in the future, be defeated by any less than totally successful results and not be thwarted in her attempts at implementing the recommended lifestyle changes and medical regimen.)**
- Patient I knew that if I could get at least three good workouts that week that it would...
- Therapist You were confident.
- Patient I was confident that it would go down and without the medication. Even though I had only taken it for that one day. **(The patient expressed her confidence in herself and in the course of action/behavioral changes to which she had committed herself.)**
- Therapist Well?
- Patient Which I really didn't want to do, but I did it anyway.
- Therapist Who could argue with success?
- Patient Yes. (Laughs).

The session ended with the playing of a 20-minute audiotape entitled "A Walk Along the Beach." The patient stated, after listening to the tape, that she felt as though she "was on the beach. I could hear the birds singing, the leaves. It's nice, a nice tape." The therapist agreed to give the patient a copy of the tape and added that, at times, when the patient was unable to relieve stress through taking a "power walk," she could use this tape as an alternative.

In summary, this session involved a review of the patient's activities, blood pressure readings, and medication requirements for the week since the last session (Session 4 on 9/26/00). The patient had proven thus far in the treatment to be very conscientious in monitoring and documenting her progress in these areas. Her subjective

reaction to her efforts at that point (10/6/00) was positive and she was optimistic regarding her ability to continue to improve her health status. Inquiry into the patient's changing beliefs and attitudes regarding medication also took place. The educational components of the treatment plan, as well as the stress management activities, were addressed.

The patient's responsibilities and activities, especially those previously identified by the patient as barriers/obstacles to compliance, were reviewed and addressed. The primary areas of difficulty for the patient were time and energy expended on work and on caretaking responsibilities for her mother. The only intervention target not specifically addressed during this session was dietary monitoring, as this issue was previously addressed with the patient and seemed satisfactorily resolved.

Telephone Conference with Physician (10/6/00)

The therapist initiated a telephone conference with Dr. K.B. The first inquiry was regarding the results of the blood panel performed last week (9/25/00). He reported that all of the results were in the normal range. The therapist then asked if vigorous exercise was a problem on days when the patient was reading a high diastolic blood pressure, such as three days last week when the diastolic readings were in the range of 110 to 120. Dr. K.B. replied that this was "not a problem for her." "Her pressure is more a reflection of a superficial range" of problem (such as environmental stressors). If she were 20 or 30 years older and "more marginal," he would be concerned about her exercising with high readings, but this patient had "no underlying cardiovascular disease...her heart is not enlarged."

The therapist inquired about the prescription being taken on an “as needed” basis. For example, the patient took the Dyazide only one day that past week, after three consecutive readings of over 90 diastolic and then she discontinued, as readings, effective the following day, were in the normal range. The physician responded that this medication regimen was “a first line approach.” If the patient’s blood pressure remains elevated, medication will be “permanent.” With its current “sporadic use,” it was more “a behavior modification technique,” more as an incentive (to exercise), in addition to its anti-hypertensive effect. The sporadic regimen would not, according to the physician, have “a deleterious effect.”

Dyazide was noted to be a medication with a side effect of frequent urination. The physician’s view of this as an adverse side effect was that, relative to the more serious side effects of some of the other anti-hypertensive medications, this is a benign side effect. It has the added advantages of having a direct action on lowering blood pressure and of having no consequences attached to sudden withdrawal/termination.

SESSION 6 (10/13/00)

The patient began the session by reporting that she listened to and enjoyed the audio tape, “A Walk Along the Beach” four more times since the last session of 10/6/00. Next, she reviewed her documentation of her blood pressure readings and daily activity schedule. She was pleased with her readings, all in the normal range except for an office reading on 10/12/00 (156/98). The patient accounted for this elevated reading as being due to “something wrong with that machine down there.” It was significant that no medications were taken this week. The patient, much to her credit, checked with her physician about the elevated reading on 10/12/00. She remained skeptical about the accuracy of that reading and her physician reinforced this belief by letting her know that he would need to check the pressure himself in order to assess the situation.

The patient was also very proud of herself for being able to take an “advanced step class” at her fitness club.

- | | |
|-----------|---|
| Patient | Even through the shortness at work, I am still going to manage to, at least... Today, I don't think I will get a chance to get out, because the only other people that can handle the front are off on Fridays.... (In further discussing her commitment to regular exercise, the patient let the therapist know that she had changed her attitude about work and about her health as a new priority.) |
| Therapist | Right. |
| Patient | But, I will make it my business tomorrow. Which I normally don't leave work early on Saturdays; I will leave early on Saturday. They are not going to take my exercising away from me this time. I don't care how short-staffed they are. |
| Therapist | So this is a new commitment to yourself. (The therapist was verbally highlighting the patient's change in attitude.) |
| Patient | Yes. |
| Therapist | In the past, I think you... |
| Patient | I would normally just go outside and get air. (Laughs). |
| Therapist | At the end... |
| Patient | Because I am really starting to feel good about it, and then it is going to go right back up again if I allow them to not let me, you know, leave early or so, they are just going to have to make other arrangements. |

Therapist It sounds like you have changed your priorities.
 Patient Yeah. Definitely.
 Therapist And your health is your...
 Patient Yep.
 Therapist Priority.
 Patient Top priority.
 Therapist And you know what? The fact that you could see such a quick pay off, I think really reinforces that you made the right decision.
 Patient I think so.

The therapist then reviewed the materials, that she had acquired to give to the patient (which had arrived and were given after the session of 10/6/00), on hypertension, low sodium diets, exercise, pacing, etc. (see Listing of Educational Materials Provided to the Patient, Appendix G). The patient stated that she had an opportunity to review some of this written material, but much of it was what she and the therapist had discussed (see Session 4, 9/26/00). She then elaborated upon the changes in her attitude, her behavior, and subsequently, her sense of well-being and self-efficacy.

Patient Exercising seemed to play a big part on just about everything that I read.
 Therapist Uh hum.
 Patient And they said as long as you could get at least a 15- to 30-minute walk seems to work wonders, so which I have been doing, so...
 Therapist So, you are finding out that exactly what you are doing is what all the literature is reinforcing. **(The therapist was pointing out that there was an empirical basis for the recommended activities and medical regimen.)**
 Patient Yes. Highly recommend, yes.
 Therapist OK. So, did you learn anything new that you didn't know, because I haven't had a chance to review it? **(The therapist had not carefully reviewed all of the materials, which arrived on 10/6/00, prior to giving them to the patient.)**
 Patient No. Not really.
 Therapist OK.
 Patient Nothing new, or... Of course they discussed what could happen if hypertension is not treated. But then I knew basically some of that. Anyway, it went into that. There was really nothing new.
 Therapist You mean about strokes?
 Patient Strokes.
 Therapist Was that the main thing?

Patient Stroke. Yeah.

Therapist Heart disease?

Patient Heart disease. Yeah.

Therapist That scary stuff. **(The patient had heard the “fear messages” from the therapist and from medical personnel. Now, she had read the material and had gotten more scientific, credible information to substantiate what she had been told.)**

Patient Yeah.

Therapist Yeah. Stuff that....

Patient Yeah. Stuff you want to stay away from.

Therapist Exactly. I mean, if that is just another motivator. But, so, basically what you are saying is that that material reinforced what we already discussed.

Patient That is right.

Therapist And that you...

Patient And it is just something that needs to be a major change in your life. Not something you are going to do for one month and say OK then, it's fine. It's like something that has to be continuous for like the rest of your life.

Therapist This is your lifestyle now. This is part of you, and who you are, and what you do.

Patient Yep.

Therapist Right?

Patient Yep.

Therapist She is now a moving kind of a person.

Patient So I have to get my walk in today.

Therapist But it still feels good? What you're doing?

Patient Yeah. Even with all the stress at work, nothing seems to bother me at this point. So what they are short-staffed. So what, nobody didn't show up for work, and I'm on the phones, and I'm doing this and I am doing that. I just take it with a grain of salt. Normally, I would have been like, UHUH. You know. It works.

Therapist How did you change your mind like this?

Patient Well, it's like, well, like I said, when you're allowed to leave for even 15 minutes, just to leave the environment that you are so used to being in almost like 10 hours a day, it's a big difference to just go out and take a walk. I don't care if it is a walk from here to the corner. It's just that you are away from everything in the office. You have no one calling your name. The phones are not ringing. Someone saying, “pick this up,” or “I need you to do this,” and if they need me, they have to wait until I get back. **(A major shift in the patient's attitude toward her employment and her health had taken place. Health was now the patient's priority.)**

Therapist Um huh. **(The therapist was thinking that the patient's employer, hopefully, could adjust to not having a Type A employee any longer.)**

Patient So, by then, I am relaxed. So I can handle whatever it is that they want to throw at me.

Therapist Um huh.

- Patient So that made a big difference. Really.
- Therapist Just a break. Just a...
- Patient Just a break.
- Therapist I mean, when people are very upset, uh, we try to teach them just take a few deep breaths. Just, you know, snap a rubber band on your wrist. Do something to stop that cycle, to break the cycle and give yourself a chance to recover. And once you are settled, your decision-making is changed, your mind is clearer, your body is less tense, and the whole cycle can break very quickly. **(The therapist was introducing additional behavioral techniques for the patient to utilize for stress management.)**
- Patient Yep.

The patient indicated that she planned to listen to the relaxation tape at home at least once a week. She was also referred to a local store to purchase relaxation tapes, in addition to which the therapist promised to bring in a variety of tapes from her own collection.

The patient reported that she would be away on vacation in Las Vegas for the next two Fridays (the usual day of the treatment sessions) and that she planned to continue her exercising and checking her pressure daily while she was away.

SESSION 7 (11/3/00)

The session of 11/3/00 began with a review of the documented blood pressure readings and exercise schedules from 10/13/00 to the present. The patient reported that she took medication on 10/20/00 because she had three consecutive days where her diastolic pressure was over 90. (It was 92 on 10/18/00-10/20/00.) She attributed the three high blood pressures to the fact that if she did not get an aerobic workout during the week, “the walking is great and it is good, but I need at least two days of like a 45 minute cardiovascular workout or my pressure seems to be going back up again.” Additionally, this was the week that she was leaving for her vacation, “which meant I was doing a lot of running around, trying to get my mother situated, because I had to have a sister come while I was on vacation.” She, again, stated, “But I realized that if I do not get those 45 minutes at least... It doesn’t have to be three days a week. I am figuring it out. If I can get it in, at least, even one or even two, it is a difference in the pressure.” The patient had learned a considerable amount about her health needs from monitoring and reviewing the documentation of her blood pressure readings and exercise schedule. She was correlating her blood pressures with her activity level and had identified the pattern. Additionally, she was paying attention to the stressors in her life and taking note of the impact they had on her hypertension. The patient was developing a strong sense of self-efficacy at this point. Perceived self-efficacy is a person’s belief in his or her coping capabilities, their belief that they can succeed at something they want to do, their judgments of their ability to organize and execute courses of action required to attain mastery or to perform designated actions or tasks (Bandura, 1986; Sarafino, 1998). Self-efficacy is further explained in Chapter 5.

From the date that the patient left for vacation on 10/21/00, her blood pressure readings were all in the normal range. However, on 10/25/00, the reading was 107/52. She accounted for the drop in pressure as being due to having taken a four-hour walk at a steady pace in Las Vegas. The patient stated that she felt neither weak nor exhausted after that long walk. She said, "I felt great, as a matter of fact." The patient reported that her vacation was "great" and was well needed. She felt rested, and she stated that she "looked 100% better" and "felt 100% better." Here, the patient not only had strong objective evidence of her improvement and of the treatment efficacy from the documented blood pressure readings and correlated activities, but she also was experiencing subjective evidence.

The patient reported that the blood pressure readings remained in the normal range until 11/1/00; when, after a 45-minute workout at the fitness club, she went to the medical office to have her pressure checked and it was 150/95. That same morning, prior to the workout, the blood pressure reading taken at home by the patient was 118/89.

Patient	Coming back from the gym, I went to the office to have my pressure checked.
Therapist	OK. (It was significant that the patient had come from a vigorous workout at her fitness club before having her blood pressure taken for a second time that day.)
Patient	It was 150 over 95.
Therapist	Um.
Patient	And I questioned that um the automatic one. I like the old fashioned one.
Therapist	Yeah. You are not sure that that machine is accurate.
Patient	Yeah. I don't think he likes that machine for me. But I would need him to do the other one, the doctor to do the other.
Therapist	OK.
Patient	And I probably will see him one day this week, for him to double-check that.
Therapist	All right.
Patient	So I am not really concerned about that. Because it seems to always be high when I had it done in the office, especially after I exercise. (Again, it was noted by the patient that her pressure always seemed to be higher

in the office, especially after vigorous exercise. She had not yet made the correlation between physical activity/stress and short-term blood pressure elevations.)

- Therapist Um huh.
- Patient Thursday. I took it in the morning again. It was 107 over 59.
- Therapist Um.
- Patient I did a 30-minute power walk and a 45-minute work out that day. And today...
- Therapist So two days in a row you did the...No. Yeah. You did the workout at the club.
- Patient Yeah. And it seems like the better workout that I have the day before and the next day, the pressure seems to go lower.
- Therapist Um.
- Patient Friday. Which is November the 3rd. Today. It was 104 over 70.
- Therapist Um.
- Patient So I am feeling pretty good about that.
- Therapist You've done fabulously well on this regimen. Haven't you?
- Patient Yeah. I have. But I have also found out that if I do not get at least one cardio-vascular work out during that week my pressure seems to go... Not extremely high. But that's when it started going up again. So, I think with each person it might be different as far as exercising. And with me I am finding out that the 30-minute power walk is good for me when I can get a chance but it has to be more for me.
- Therapist Um huh.
- Patient For some reason or another. (Laughs). And that is what I learned about myself. That, which is interesting to me.
- Therapist Yeah.
- Patient And that is the way it goes.
- Therapist I wouldn't have known.
- Patient Yeah.
- Therapist You wouldn't have known. **(The therapist was reinforcing that experiential learning had taken place. The patient's behavioral change and subsequent monitoring and documentation had given her evidence regarding her individualized treatment needs.)**

Another pattern that would emerge which appeared to substantiate the patient's contention that the office equipment for reading her pressure may be faulty, or the physician's belief that the patient may have had some performance/test anxiety, was that the readings taken in the downstairs office of the medical facility were considerably higher than those readings which the patient took at home on the same day. The equipment used at home by the patient did have the capacity to register high

readings. For example, refer to 9/22/00 (Table 1), 9/27/00-9/29/00 (Table 2), and 10/18/00-10/20/00 (Table 2). Either one, or a combination of the two suggested variables (i.e., the patient's and/or the physician's explanation), were plausible and could account for the patient's blood pressure elevations when taken by the downstairs automatic machine at the medical facility. However, as Rosen, Brondolo, and Kostis (1994) point out, blood pressure is susceptible to both postural and diurnal variations and should, therefore, be taken in the same chair or couch, after the patient is comfortably seated and resting for at least 5 to 10 minutes and taken at the same time of day. The patient's measurements were not taken under standardized conditions and were therefore, subject to variability and the potential for error.

- Therapist Right. OK. Well, you must feel good. **(Once again, the therapist was letting the patient know that she had, through her own efforts and self-awareness, made considerable progress in taking charge of her own health and welfare and had achieved her goal, thus far, of normalizing and stabilizing her blood pressure.)**
- Patient I do.
- Therapist About what you have done.
- Patient And I said I have to tell you that.
- (Both laugh).
- Therapist It's amazing. How you have gone from somebody who just less than two months ago, I think, you pretty much were in trouble. **(The therapist was attempting to give the patient an appreciation of the rapidity of the progress that she had made, in addition to stressing, once again, the gravity of her health situation.)**
- Patient Yeah.
- Therapist Really. Health-wise.
- Patient Yes.
- Therapist You were at high risk, lady.
- Patient Well I was. I know. Like, I wasn't taking it lightly. I knew that. That is why I said I am taking it very seriously with them about my working, you know, my job. As far as my working. Because this is something I have to do. They cannot postpone it, or say "you can't go this week, you can go next week," or something like that. I just go.
- Therapist Um huh.
- (Patient Laughs).

- Therapist So. Have you gotten any flack from your employers? **(The therapist was concerned that the patient not lose her job due to her newfound self-assertion and self-advocacy and the concomitant behaviors.)**
- Patient No. Actually I am having... They are very good about it. But I know we are short handed. So it is, like, they are, like, “yes, you need to do this, but we need you here” type thing.
- Therapist Right.
- Patient And I have to be the enforcer and say I have to go. And if you have to close your office down for a half an hour until I come back, then that is the way it’s gonna be. (Laughs).
- Therapist OK. You drew you line in the sand.
- Patient Yeah.
- Therapist You set....
- Patient If not, if I have a stroke or fall out, they’ll find someone to replace me anyway. So. (Laugh). That is a bad thing to say, but it is true.
- Therapist It is true. **(The patient had internalized the information regarding the threat to her health (i.e., her vulnerability and the severity of the illness) and this information had served to firm her resolve to maintain her behavioral changes.)**

The discussion next turned to stress management. The patient reported that she listened to the relaxation tape (“A Walk Along the Beach”) “quite often, but I did one better.” She purchased a “relaxation machine” which contained recorded sounds of nature and had visual effects and fragrances. The patient found this device to be a relaxation aid. She was obviously excited and enthusiastic about her new acquisition and the perceived stress-reducing effect it had, not only on herself, but also upon her husband. She was, it seemed, experiencing a positive relationship effect whereby using this machine (i.e., the taped recordings of natural sounds) at night with her spouse, had become a shared activity from which they both benefited. The fact that her spouse was the one who found this item and suggested that they purchase it, indicated that he was supportive of the patient, and was connected with her in the arena of her health-related efforts. She stated: “And the funny thing about it is we, my husband and I, play it at night when we are getting ready to go to bed and we both fall asleep on it.”

- Patient And he was the one... As a matter of fact, he came across it. He was looking at this magazine and he thought this would be great for us. And I was, like, "us." (Laughs).
- Therapist He wants to join with you here on this. **(The support of the spouse was highlighted by the therapist.)**
- Patient Yeah. And he did. I don't have any problems sleeping anyway.
- Therapist Um huh.
- Patient I don't even remember the tape ending.
- Therapist He liked it, too?
- Patient He liked it. He was, like... He plays it over and over and over...
- Therapist (Laughs).
- Patient And I was, like, leave the tape alone.
- Therapist (Laughs). **(Later in the discussion, the patient had continued to talk about the benefits of the stress management activities for her spouse, but the therapist also introduced the idea that there could be an indirect beneficial effect on the patient's health when there is an alteration in the marital partner's well being, and therefore, a positive effect on the marriage.)**
- Patient We just got it last week and we use every day for this week and it is a big... I see a difference in him when he wakes up in the morning. (Laughs). So it is helping him more than, well, it is helping me, too. But I notice it more for him.
- Therapist So this can improve your marriage?
- Patient Yeah.
- Therapist Which also could improve your blood pressure.
- Patient Yes.

The therapist then presented the patient with more stress management materials (i.e., relaxation audiotapes) for her to take home, listen to, and to make copies of the ones that she desired. The patient ended the session by stating that she would try to see her physician before the next session "just to make sure I am getting a good reading."

In sum, the patient had become proficient at correlating her blood pressure patterns with her activity/exercise patterns and had also learned to associate stressors with alterations in blood pressure. She seemed increasingly insightful regarding these patterns. Her documented data, in addition to her subjective positive feelings of health improvement, reinforced the patient's belief in the treatment efficacy and in her commitment and ability to remain adherent to the agreed-upon treatment plan.

The patient became increasingly self-directed and engaged in stress management activities, to the extent that she had gone beyond the parameters suggested by the therapist. Additionally, the patient's spouse had become very involved in this area of treatment with the patient, providing additional environmental support for the treatment.

SESSION 8 (11/10/00)

The eighth session was the penultimate meeting with the patient, the final session prior to the follow-up and termination of treatment. The session began with a review of the stress management activities that the patient had enacted that past week. The patient reported that she was utilizing her “relaxation machine” almost every night. She listened to her audiotape, “A Walk Along the Beach,” usually when she was downstairs on her couch, and she and her husband listened to the machine when they went to bed. It seemed as though the patient had incorporated these stress management tools into her daily life, and even into her marital relationship.

The patient raised the next area of focus on the agenda. She wanted to review her blood pressure readings and activities for the week. The patient took her pressure at home on the morning of 11/6/00 and it was 136/84. The patient then went to her fitness club and did a 45-minute high- and low-impact aerobic class, walked the treadmill for 30 minutes, did a 30-minute power walk, and then, prior to beginning work, she stopped in the medical facility and the Physician’s Assistant (PA) took her pressure. It was 157/102. The PA provided an explanation for the patient’s elevated blood pressure.

Patient	She explained to me that the best time for me to take my pressure would be in the morning. My day is too hectic to come back from a workout like that and then have them check it again.
Therapist	OK. So you are still pumped up?
Patient	Yeah.
Therapist	After that workout?
Patient	Yes. I am still...Right. Tuesday. November 7 th , it was 131 over 91. And I think I got a little worried when it was that high.
Therapist	131 over 91.
Patient	Um huh. And I did a 30-minute power walk.
Therapist	Um huh.

- Patient And then I stopped in another office just to have someone check my pressure. Just to make sure my pressure machine is not getting any false reading.
- Therapist OK. You have another doctor's office that you are comfortable going into?
- Patient Right. Right. Well, not that I felt comfortable. But I just wanted to confirm why for some reason when I go to an office, it is high, and then home, it is either normal or regular, or as close to regular as can be.
- Therapist OK. So this 131 over 91 was the office? **(The patient had become a practitioner of scientific methodology. She was willing to make quite an effort to gather data/evidence.)**
- Patient It was the one I took at home.
- Therapist Oh. OK. But the one the day before was in the doctor's office.
- Patient Right.
- Therapist OK.
- Patient And they confirmed pretty much that it was, like, 130 over 85. Which was similar to what it was when I took it home. So... That relieved me a little bit. (Laughs).
- Therapist Um. Yeah. It lets you know that your equipment is...
- Patient Yeah. Because I am thinking that my equipment may be a little off and then maybe...
- Therapist Um.
- Patient But again, because the time that I go in the office to have my pressure checked, it is usually later in the afternoon and I am at work a couple hours before I go to get the pressure checked.
- Therapist Right.
- Patient Which is not good. So...
- Therapist Right.
- Patient The doctor's assistant is basically telling me that if it is consistent in the mornings like that, that's basically what they are concerned with...the morning reading more so than the afternoon.

Essentially, what the patient had learned from the Physician's Assistant, was that when her pressure was taken after strenuous exercise, or "running around," or after having been at work, the readings tended to be elevated compared to her early morning readings taken at home prior to any activities or stress. This explanation is also consistent with documented evidence of diurnal variations in blood pressure (Rosen, Brondolo, & Kostis, 1994). Other speculative explanations as to why the office-based readings are elevated compared to the home-based readings are as follows: (1) On

9/25/00, the patient had significant tachycardia during an office visit, leading the physician to rule out any organic pathology (utilizing an EKG). He, at that time, speculated that the patient had some “test anxiety” (i.e., performance anxiety). (2) The patient speculated that the office equipment for blood pressure measurement may be faulty. It is evident from the documented home-based measurements that the patient’s home equipment did have the capacity to register high readings. (3) Rosen, Brondolo, and Kostis (1994) state that a lack of standardized conditions (i.e., postural and diurnal) can be the cause of inconsistent or faulty measurements.

Refer to Table 3, Site-based Blood Pressure Differences, for a display of findings related to this patient. The office-based systolic blood pressure readings were an average of 11.81% higher than those taken in the home. The office-based diastolic blood pressure readings were an average of 12.89% higher than the home-based readings.

TABLE 3

Site-based Blood Pressure Differences

Site		Systolic (mmHg)	Diastolic (mmHg)
Office	N	9	9
	Mean	154.22	98.11
	SD	12.96	9.6
Home	N	110	110
	Mean	136.00	85.46
	SD	18.30	14.25
Total	N	119	119
	Mean	137.38	86.42
	SD	18.55	14.32
% higher in office		11.81%	12.89%

The office-based readings do, however, show a downward trend with repeated measurements over time from the pretreatment period (baseline) to the end of the follow-up period (see Tables 1, 2, and 4).

In future case studies of this nature, it would be worthwhile to carefully calibrate the home-based instrument with the instrument utilized at the medical facility. This recommendation would help address the issue of questionable data based on faulty measurement/instruments.

The patient explained that she planned to do the power walk on a daily basis. There were only two days that she could not perform the power walk that past week and that was because they were “short-handed” at her workplace and there was no one available to relieve her. The therapist then turned the discussion to the issue of medication. The patient had raised this issue with the PA on 11/6/00 and determined that the PA agreed with the physician’s prescription (i.e., to be taken after three consecutive days of elevated blood pressure readings). The patient understood and seemed to be in accord with the recommendation. She stated, “ But it is something that I still need to monitor. I mean, I am not out of the woods per se...” Though acknowledging the potential need for medication, the patient was quick to point out that she had not required any medication for the past three weeks (since 10/20/00).

The therapist suggested the need for a comprehensive progress review at this point in the session. The treatment goals and interventions were delineated and assessed for effectiveness/outcome. The six primary interventions discussed were; stress management, blood pressure monitoring, information and education, dietary monitoring,

problem-solving regarding barriers to compliance (especially regarding exercise), and addressing dysfunctional beliefs about medication.

Therapist Well, I wanted to review where we are at, at this point. I feel like it is time to go back and look at what we set as goals and what we set as short-term targets to meet the goals. And whether we are on track and how you feel about it. OK?

Patient Um huh.

Therapist Well. Our treatment goal was very simple. Decrease your blood pressure and stabilize your blood pressure. And it looks to me as though, to date, you have really met that goal. Amazingly.

(Both laugh).

Patient Yeah. I think so.

Therapist Well. We'll talk more about the stabilization aspect of it. In other words, how to maintain what you are doing. Because it's... **(The idea of maintenance and relapse prevention was introduced to the patient.)**

(Patient Laughs and says something low).

Therapist What was it?

Patient I said, "find a new job." (Laughs).

Therapist Well, you wouldn't be the first one to do that. It might...

Patient Maybe I am allergic to my office.

Therapist You wouldn't be the first. **(The therapist thought that it would be prudent not to encourage the patient one way or the other about changing her place of employment, as this was beyond the scope of the treatment goal at that time. It was preferable to focus on the agreed-upon intervention targets and outcomes without causing undue further upheaval in the patient's life.)**

(Therapist laughs).

Patient Yes. I am sure. (Laughs).

Therapist But uh... Now, the things that we went over as targets when we met. This was back in September, on the 22nd.

Patient Right.

Therapist It was our third... Actually, it was our first treatment session. **(There were two prior sessions that were exclusively assessment sessions (on 9/15/00 and 9/19/00). The third session was also an assessment session, but it included elements of treatment.)**

Patient Right.

Therapist And it was the third time we met. The first two sessions, we did the evaluation. And what we talked about was... Well, I had six things. We had stress management where you would have access to relaxation techniques, with guided imagery, and any other things that we could think of for keeping the stress level down. And it sounds like you have really gotten an awful lot out of the tapes and you are starting to use that new piece of equipment. Yes?

Patient Which was nice. This was a great investment. (Patient laughs).

Therapist It sounds like it.

Patient Yeah. It was.

Therapist So. Then, I had at least weekly blood pressure monitoring and you really surpassed that by doing daily blood pressure monitoring. Then the third thing was making sure that you had as much written information and education about hypertension and on the aspects of it. The sodium intake, the exercise aspect...

Patient Right.

Therapist The "What is hypertension?" And that we would be able to discuss that. Now, did you feel like you got enough material or would you still be interested...

Patient Oh sure. More than enough. No. I have more than enough. Not that you would ever have too much. But basically, you start getting repeats of everything and so, I basically have a general idea. Well, I know that I know what hypertension is. (Laughs).

Therapist Uh huh.

Patient At this point. So, I have more than enough written information that will keep me busy for a little while if I actually sat down and read everything they had said.

Therapist Did you have questions that you still had for the doctor or for me or for Julie? (**Julie is the Physician's Assistant.**)

Patient No. Not as of yet.

Therapist OK. Then we talked about dietary monitoring. And although you did not feel as though you needed to formally write down what you were eating, it sounds as though you are being very careful with salt intake.

Patient Yes. Right.

Therapist You said you cut down on your...

Patient & Therapist Potato chips.

Patient It was my weakness. And that is like almost non-existent at this point.

Therapist Um.

Patient Or where it was like an everyday I would grab a bag of chips or something, if I do take chips, it is a few chips, maybe once a week.

Therapist OK.

Patient So I haven't stopped it all together. But I am really careful and I won't buy a big bag of chips. It is just the little bags that I have at home. So I know I can't eat any more than the little bags because I don't have any more there. Where I would go shopping and buy like a big bag of chips.

Therapist So that has changed dramatically?

Patient That has changed dramatically.

Therapist And your information that you got about hidden sources of sodium...

Patient On lunchmeat... Well, I am not really a lunchmeat type eater. Canned soup - I usually make my own soup, so I am not really into... Yeah. I was aware of that. But again that wasn't a factor for me because I am not a canned goods person. And I know there is salt in other things that I have to watch out for. But... Like, if I buy tuna or something, now it is lower

sodium, when I would not have thought about that. **(Even though dietary alterations were not a large focus of behavioral change due to the patient's exemplary dietary regime, the patient had benefited from the information/education provided and had initiated improvements in this area.)**

The reviewed literature varied regarding the targeted daily amount of sodium consumption for individuals with hypertension, but the general range was 1500mg. to 2500mg. per day, with the overall agreement that most people should have less than 2500mg. per day. The body only actually requires about 0.5 grams of salt (0.2 grams of sodium) daily (American Heart Association, 1999; Rosen, Brondolo, & Kostis, 1994; Searle, 1998; StayWell Company, 1999). The therapist and patient proceeded to have a lengthy discussion about sodium and the therapist was satisfied that the patient not only had assimilated a lot of detailed and accurate information regarding this issue, but had an unusually heart-healthy diet. She avoided canned goods, lunchmeats, frozen dinners, etc. She seasoned most of her food with garlic and she ate a good quantity of fresh fruits and vegetables. In fact, her spouse was a vegetarian.

- | | |
|-----------|---|
| Therapist | Well, the fifth thing was problem-solving regarding fatigue and time obstacles or barriers to your ability to comply with the doctor's recommendation about exercise. |
| Patient | Right. |
| Therapist | And uh.... |
| Patient | And even though those two days where I didn't exercise because I didn't have anyone to relieve me, that was more me being tired. Because I feel like, if it is something that I truly, truly, want to do, whether they have anybody to work the front desk or not, I am going. |
| Therapist | OK. (The patient's commitment to the targeted behavior of exercise was strong.) |
| Patient | So. That was basically because I was tired more so then... The other factor was that I didn't have anybody to relieve me. But the main factor is because I am really right now thinking that I come before the office at this point. So that wasn't geared to... We are starting all over again with, I don't have anybody to watch the front, so I can't leave. It was because I did such a heavy workout during that week, that I was tired for those two |

- days. And even, you know, the 30-minute power walk was just a little too much for me right then and there.
- Therapist Yeah.
- Patient And I don't want to fall into a rut because that will be something that will happen again and it will go up again because I can't go exercising. Even though I really hate the idea of leaving work to go exercising and then coming back. That gets to me more than anything else. I would rather just leave and not have to come back and go straight home. And that is what I do on Wednesdays and some Fridays. I will leave work early...
(The therapist was noticing how verbal the patient had become. Now, the therapist was supplying the one-word responses and the patient was supplying large amounts of information.)
- Therapist OK. **(The patient was planning for future behavioral maintenance and relapse prevention.)**
- Patient Do my exercising and then I am home.
- Therapist Yeah.
- Patient So, I am much more relaxed.
- Therapist Yeah. That makes a big difference.
- Patient And I work really hard. Sometimes, 15 hours (mumbles inaudibly). And that is another thing.
- Therapist Oh.
- Patient So, I think that was a reason why the Monday reading was so high, as well.

The therapist and the patient continued discussing the cause of the patient's relatively high blood pressure reading on 11/6/00 (i.e., 157/102). The patient was analyzing and understanding the variables that produced this elevation. She concluded that she "pushed it" on Monday (i.e., she did too much, both with working out and then returning to a lengthy, hectic workday).

- Therapist **(The dysfunctional beliefs, especially regarding medication, which could negatively impact upon the patient and her health-related care, were addressed next.)**
 Then, the last thing I had, No. 6, was to address your ... any dysfunctional beliefs you might have about medication. Now, it seems as though you have come to some sort of compromise about...
- Patient Yeah. I have.
- Therapist Your position that there will be no medication in your life.
- Patient Right.
- Therapist And the doctor seems to have cooperated by compromising with you.
- Patient Well, I think it will help. But I am just... I don't want to take it if I don't have to take it.

- Therapist Right.
- Patient And if I can prevent. Like some days, I can do all these things and my pressure still may be high. **(Here the patient was referring to the behaviors which she had learned and had incorporated into her lifestyle, such as; exercise, stress management, and diet.)**
- Therapist Um huh.
- Patient Then, I know that I need to take the medication. I mean, I have come to that conclusion and that was really a tough conclusion for me to come to, that medication does help. But, if I can prevent this as a daily basis of taking medication constantly every day, then that is what I will do.
- Therapist Um huh.
- Patient I mean, I have exercised for a couple of weeks last week and I mean, before I went on vacation and it was not high, but a little higher than it has been. And I had to take the medication. Now what was the difference? It could have been pressure for going on vacation, trying to make sure things were straightened out before I leave. You know. Stuff like that. I will take it if I absolutely have to, but if I don't, I will not.
- Therapist It sounds reasonable.
- Patient Yeah. **(It was obvious from the above discussion that the patient really struggled with the necessity of having to take medication, but she was resigned and was reasonably comfortable with the agreement that she had reached with the medical team. Additionally, the therapist believed that the sporadic need for medication had served, as the physician had speculated, as a behavioral motivator for the patient to work hard to avoid it.)**
- Therapist It sounds like something you are comfortable with and your physician, and the PA, the Physician's Assistant, seem to agree. So. There you go.
- Patient She is also using me as for other people, too, that have hypertension, as far as exercising, because even she noticed a difference. **(The patient was now an example for others and she sounded gratified about this.)**
- Therapist She is using you as an example?
- Patient Yeah.
- Therapist A source of inspiration.
- Patient Yes. As far as exercising. Yes. For other patients, as well. Just the exercising part itself.
- Therapist So you're like a role model?
- Patient Yeah.
- Therapist That she can tell other people that now she knows that...
- Patient Exercising does work.
- Therapist Does make a difference. Well...
- Patient Again, and I stress different exercising for different people. Sometimes a 30-minute walk for some people may be all that they need. I am finding out that is not enough for me. It would have to be a little more for me.

The therapist and the patient agreed that weekly treatment sessions were no longer necessary, but the patient stated that she would contact the therapist if she got “to a point where I am in a rut and it is getting too high, then I would probably want to talk to you again.” In arranging a date for a follow-up session where maintenance issues could be addressed, the patient began talking about her plans for the Thanksgiving holiday.

Therapist Uh. How about if we meet again after Thanksgiving? That would be our follow-up session. I will get a chance to see how you have done over the next few weeks. You know, with the stress of Thanksgiving... **(The therapist introduced the idea of a potential obstacle to compliance, a known stressor.)**

(Both Laugh).

Therapist Holiday time...

Patient It won't be so stressful for me because I am going away.

Therapist You are?

Patient I am going to Canada for Thanksgiving so I will not have to cook for anybody's family.

Therapist Very good.

Patient I plan on.... And that is something that was unusual. This is the first year. I have been married for seven years. And this is the first year that I decided not to cook. I am just not going to do it.

Therapist You have really transformed. Is your family going to be angry at me for, uh... **(The therapist was concerned about ramifications of the patient's change within the family system.)**

(Therapist Laughs).

Patient No. I have one son that is grown. He can go over his grandmother's for dinner.

Therapist Uh huh.

(Patient Laughs).

Patient So I am not worried about that. No. It is basically his side of the family. It is not that many of them. And it is because they really don't have any place to go, but that was decided early in October. I wasn't going to do this.

Therapist OK.

Patient So they had to make other plans. And my husband agrees. So the both of us are just going to go to Canada and relax.

The patient further stated: “And I think I am going to start thinking about me now. Not what other people...(laughs) expect and want from me.” Also, her sisters would be available to care for her mother, so that was another responsibility/stressor that the patient

felt comfortable relegating to others. The therapist let the patient know that, unlike many other people, she was getting hard data/proof (in the form of normalized blood pressure readings) about how changes she had made in her life were affecting her. The patient continued to talk about the change in her attitudes and behavior vis-à-vis work and family responsibilities. She joked: “And I *may* decide to cook Christmas dinner.” (Patient laughs).

The therapist then prepared the patient for the follow-up/maintenance session and also introduced maintenance and prevention concepts for the patient to begin utilizing at present. She began helping the patient to anticipate barriers to her compliance with the medical regimen and to have plans in place to overcome these obstacles.

Therapist Um. And that will be our follow-up. And we will talk about... We will not only talk about maintenance, but we will get some indication of whether you are able to maintain this schedule in spite of holidays and travel. **(The therapist began introducing potential impediments to adherence.)**

Patient Yep.
(Therapist laughs).

Therapist And so forth. OK. Um. Because there will be times when you don't feel like exercising.

Patient Right.

Therapist Or, you won't have the opportunity.

Patient Right.

Therapist And then what are you going to do?

Patient Well, it is like I said.... Just leaving the office and going for a 15- to 30-minute walk is a big difference. I can feel the difference when I leave and come back. Just something as simple as that. And that is something that I have to work on. Even if it is just doing that. **(The patient began problem-solving, preparation for overcoming obstacles.)**

Therapist Um huh.

Patient For 15 minutes. If it is not a 30-minute walk. Just to leave that area for a few minutes makes all the difference in the world.

Therapist That's... That is an age-old stress management...
(Patient Laughs).

Therapist Technique. It is called “time out.”

Patient (Laughs). Yes.

So that, in itself... I don't care if they don't have... Even if they have to close the office for the 15 or 20 minutes until, like... You know. I will leave a note and put it on the door. I'll be back in 15 minutes.

Therapist Gone fishing. Right. Back in 15 minutes.

Patient They may not like that, but they may not have a choice either.

Therapist OK.

Patient OK.

Therapist Yes. So why don't you hold on to those tapes until the 1st.

Patient OK. Good. Because that way I can at least listen to it while I am on the plane. It will take some of the (inaudible) away.

Therapist Um huh.

Patient And relax. You know. Listen to it while I am on the plane, since I don't have the time to do it here.

Refer to Table 2, Blood Pressure Readings with Exercise Schedule During Treatment, 9/26/00 – 11/10/00, for the patient's documentation. The mean systolic blood pressure for the treatment period was 132.13mmHg (N = 52) and the mean diastolic pressure was 83.19mmHg (N = 52).

CHAPTER 4

FOLLOW-UP TREATMENT/TERMINATION SESSION

Telephone Conference with Patient (11/28/00)

On 11/28/00, the patient telephoned the therapist in order to cancel the final session, which had been scheduled for 12/1/00. She had root canal surgery scheduled for that morning. The session was rescheduled for 12/8/00. She reported that she was “doing great.” She reported “fine pressure, even on the office machine,” after her vacation in Canada where there was “cold air and walking.” This good blood pressure reading was despite the stress of travel (i.e., she and her spouse had difficulty getting back to Philadelphia from Toronto due to flight cancellation caused by inclement weather). The patient further commented that she thought that the audiotapes, which the therapist had lent her, were “really nice” and she copied some of them for personal use.

SESSION 9 (12/8/00)

The final session with the patient was particularly critical. It took place on 12/8/00, 12 weeks after the first session with the patient on 9/15/00 and 4 weeks after the last treatment session on 11/10/00. This session served to review initial treatment goals, review and summarize treatment interventions, reinforce successful efforts on the patient’s part, and finally, to establish plans for maintenance and relapse prevention (Meichenbaum & Turk, 1987; Prochaska, DiClemente, & Norcross, 1992; Rosen, Brondolo & Kostis, 1994). Here the therapist was not referring to relapse prevention in the sense that the patient’s previous dysfunctional behaviors were addictive, but more in

terms of preventing the patient from reverting to those attitudes and behaviors that kept her from achieving her stated health-related goals.

The session began with the therapist inviting the patient to approve of, and add to, the session agenda as desired. Then, prior to proceeding with the intervention review, the therapist referred back to the session of 11/10/00 in order to question the patient about her decision to take a vacation this time of year.

- Therapist You were going to go to Canada and the last thing you said was “I would not have considered a vacation this time of year in the past”. And I was wondering what was different now that you gave yourself permission to take off of work and take that vacation?
- Patient Um. I think the difference this year was I am trying to focus more on me and what I want to do and not so much what everybody else wants me to do. I’ve decided that I am going to do things I want to do. (Laughs). This year. And I was not that way last year.
- Therapist How do you feel about this decision?
- Patient Great. Wonderful.
- Therapist Do you feel it was a good decision?
- Patient It was a great decision.
- Therapist No guilt? No regrets?
- Patient No guilt. No regrets. No nothing. (Laughs).
- Therapist Excellent. And how does your partner feel about this decision? Does he notice any difference in you?
- Patient Oh yeah. Yeah. He goes along with the program. But yeah, he was happy that we decided to do that this year.
- Therapist OK.
- Patient For more reasons than one.
- Therapist For more reasons than one? Has it had an effect on your relationship?
- Patient Um. It is making it better. But it has always been OK. So, it’s not...
- Therapist But better. **(The patient’s change in attitude was vital to her improved compliance with her medical regimen and also, to her improved physical and emotional health. The therapist was bringing this to the patient’s awareness, reinforcing it, and ensuring that the implications of her decision to change were not lost to her.)**
- Patient Yeah. (Both laugh).

In keeping with the commitment to carefully monitor the blood pressure readings

and exercise-related activities, the therapist and patient reviewed the patient's "calendar" (where she wrote her daily documentation). The readings since the last session (Session 8 on 11/10/00) were all in the normal range. (See Table 4, Post-intervention Blood Pressure Readings with Exercise Schedule, 11/11/00 – 12/8/00.) On 11/29/00, the reading was 107/59 and on 11/30/00, it was 115/57. The patient attributed that these readings were in the low end of normal range as being due to her fatigue after coming back from her vacation. She reported being and feeling healthy at that time. The patient took no medication for hypertension during the month of November, 2000, nor was any medically warranted. In the month of December, thus far, the patient had a reading of 120/52 (on 12/3/00). The patient, again, attributed that low reading as due to fatigue. The patient had not taken, nor had she required, any anti-hypertensive medication in December, either. Her last medication was taken on 10/20/00, required after three consecutive diastolic readings above 90mmHg.

TABLE 4
Post-intervention Blood Pressure Readings
with Exercise Schedule (11/11/00 – 12/8/00)

Date	Systolic	Diastolic	Exercise
11/11/00	131	79	30 minute power walk
11/12/00	116	86	45 minute workout 30 minute power walk
11/13/00	128	76	30 minute power walk
11/14/00	128	76	30 minute power walk
11/15/00	129	67	30 minute power walk
11/16/00	152	88	30 minute power walk
11/17/00	126	86	30 minute power walk
11/18/00	131	89	30 minute power walk
11/19/00	128	89	30 minute power walk
11/20/00	113	81	30 minute power walk 30 minute treadmill
11/21/00	129	72	30 minute power walk
11/22/00	110	76	30 minute power walk 30 minute treadmill
11/23/00	121	75	30 minute power walk
11/24/00	140	72	30 minute power walk
11/25/00	128	72	30 minute power walk
11/26/00	137	84	30 minute power walk
11/27/00	124	72	30 minute power walk
11/28/00	121 142 (office)	88 90	30 minute power walk
11/29/00	107	59	30 minute power walk
11/30/00	115	57	30 minute power walk
12/1/00	136	83	30 minute treadmill 30 minute power walk
12/2/00	126	75	30 minute power walk
12/3/00	120	52	30 minute treadmill 30 minute bike
12/4/00	120	80	30 minute power walk
12/5/00	129 137 (office)	86 97	30 minute power walk
12/6/00	124	80	30 minute power walk 30 minute treadmill
12/7/00	140	73	30 minute power walk
12/8/00	128	88	30 minute power walk
Mean	127.20	78.27	
SD	9.93	10.36	

Regarding exercise, the patient found difficulty getting to her fitness club due to fatigue and various obligations, but she maintained a regimen of near-daily 30-minute power walks with some days of treadmill and bike-riding (stationary bike) activities. From 11/11/00 to 12/8/00, all of the pressure readings were in the normal range, with only two exceptions. Both exceptions took place the two times that the patient had readings taken in the medical facility. On 11/28/00, the reading was 142/90, and on 12/5/00, the reading was 137/97. These readings appeared to be anomalies, an effect of having the pressures read in the physician's office, later in the day than the patient's usual early morning readings at home.

The next agenda item was a review of the patient's dietary monitoring of her sodium intake. Though the patient did not have written documentation, she gave the therapist a verbal report. She reported that she was maintaining a careful regimen regarding sodium intake. She only had two very small bags of potato chips in the month of November. She stated: "It is really under control..." The therapist understood the limitations of patient self-report, but the outcome regarding a prolonged period of normal blood pressure readings at that point in treatment, would seem to substantiate that the patient was compliant with the primary aspects of her medical regimen (i.e., diet and exercise).

Stress management was the next area of focus. The patient listened to the audiotapes, all geared for relaxation, while she was on vacation.

Therapist	All right. Now. Let me look at stress management. Have you been listening to the tapes and...?
Patient	Yes. I had a good chance to listen to it when I went on vacation for Niagara Falls for Thanksgiving.
Therapist	Um huh.

- Patient Wednesday, Thursday, Friday and Saturday I had a chance to listen to each one. At least one a day. **(The patient was referring to 11/22-11/25/00.)**
- Therapist Um huh.
- Patient And that was great. And that was why the pressure was like 110 over 76, 110 over 75, 140 over 72, and 128 over 72 those days.
- Therapist You find that when you listen to those tape...
- Patient Yeah. Yep.
- Therapist It affects your pressure?
- Patient Yep. Sunday it went up to...
- Therapist I want to make a note. This patient has a big smile on her face.
(Patient & Therapist laugh).
- Patient 137 over 84 on Sunday. It was a little high. I didn't get a chance to listen to the tapes. Then I got stuck in Buffalo, New York. So. **(The reported pressure for Sunday, of 137/84, was being referred to as "a little high" by the patient. Actually, this was well within the normal range, but the patient was speaking relative to the lower readings of 11/22-11/25/00. The therapist was not disputing her attribution of lower blood pressure readings as being due to having listened to the relaxation tapes.)**
- Therapist Right.
- Patient It raised a little after that. (Laughs).

The patient went on to report that she and her spouse also purchased another audiotape in Canada. The tapes seemed to have become an important and regular component of the patient's regimen. The biofeedback of blood pressure monitoring reinforced the patient's motivation to continue this pursuit. She stated, "Actually, even in Canada, I went to have a pressure checked in one of their health centers..." The patient was truly conscientious and committed to monitoring herself.

- Patient And the pressure was... What days was that? It was really good. Even my husband, whose pressure always seems to be up, was great. Did I write it down? No. I don't think I wrote it down. But it was really great that day. And then, when I came back to have it taken in the office on the 28th, it was great. 142 over 90.
- Therapist 142 over 90.
- Patient Yeah.
- Therapist Um. Does your husband have hypertension?
- Patient No. But he has a tendency, uh, because he was a little overweight, that it was a little high at one point, but nothing that had to require medication. He watched his diet. But my type, my machine at home, is not big enough

- for his arms. So I cannot use that to test his. But every once in a while, I just like to test it anyway.
- Therapist Um huh.
- Patient Just to make sure. And his was pretty good. So I guess vacation helped him, too. (Laughs). **(The fact that the patient's spouse had a tendency to be hypertensive and then had a lower pressure while on vacation in Canada, served as both a motivator and a reinforcer for the patient. Her attributions, again, were consistent with the objectives of treatment. She was making correlations between her efforts and successful outcomes.)**
- Therapist **(The therapist was aware, in the last treatment session (11/10/00), that the patient was still struggling with the issue of her fear of dependence on medication.)**
- It sounds like it. Well, let me talk about something... It was just an idea that I wanted to check out with you, that occurred to me as I was reviewing your history. And I was trying to understand why you had the fear of addiction and dependence on medication. And I was looking at your family history and I saw that your father was an alcoholic and your two brothers are alcoholics and your mother has emphysema from nicotine addiction. And so, what I was wondering, and this is only something you could answer, is there a possible relationship to your personal fear of addiction or dependence or just aversion to medication...
- Patient Possible. Yeah. It has a lot to do with it.
- Therapist And your family history?
- Patient Yeah. It does.
- Therapist Is it?
- Patient Yeah. Definitely.
- Therapist OK.
- Patient That is why I don't drink or smoke. That is one of the reasons I don't drink or smoke. There are other reasons.
- Therapist OK.
- Patient Because I don't want to be dependent on... I've seen what being dependent on something can do to you. So...
- Therapist Right.
- Patient Yeah. It has a lot to do with it.
- Therapist OK. I understand. Well. That being the case, I would just like to have you make a distinction for yourself between addictive behaviors and substances like alcohol and nicotine and the drugs that people get dependent on, and the hypertension and the medication to treat hypertension.
- Patient Oh. I know there is a distinction. (Laughs).
- Therapist I know. But I think emotionally there might be, um...
- Patient No. I don't think so.
- Therapist No?
- Patient I know, you know... that other than that, I wouldn't have agreed to take medication at all. And I have.

- Therapist OK. Well, that is important...
- Patient I know.
- Therapist That you realize what is going on when you say, “no, I am not going to take anything.” Um. And give yourself permission to say, “well hey, is this the same kind of issue?”
- Patient And I know it’s not. But again, I know me well enough to know that if it can be prevented, then I will do everything possible. And I know some days you can exercise, you can watch your diet, and it still... you know. Then I know I have done everything that I could do. So.
- Therapist Right. OK. Well, that was just a connection that I was wondering about. **(In questioning the patient as to whether she thought that her family history of addiction may have played a role in her resistance to/fear of medication, the therapist was seeking insight and was also planting a seed to suggest that the patient’s situation and potential need and utilization of anti-hypertensive medication was incongruous with her family members’ abusive and addictive relationship with substances such as alcohol and nicotine. The patient both accepted and rejected the interpretation regarding her underlying motivations, reflecting her conflict and ambivalence at that point. One hopes that this patient would not require medication on an on-going, daily basis in the future, but if this should ever happen, the therapist believed that she had done as much as possible to chip away at the patient’s resistance.)**

Maintenance of the patient’s current compliance with the medical regimen and her current active implementation of the treatment interventions were next addressed.

- Therapist Now we get to the part about how to maintain this progress? I mean, you have made absolutely wonderful progress. I think you have done a heroic job of turning your life around health-wise. And also, attitude-wise.
- Patient Oh yeah.
- Therapist You agree.
- Patient (Laughs). I’ll agree.
- Therapist And I was wondering if we could talk about how to maintain this. How to stabilize this progress that you have made? How to stabilize your blood pressure at a good level, if possible? And I wanted to say that what you are doing with these readings is the best biofeedback.
- Patient Um huh.
- Therapist Biofeedback is when you are getting from machinery...
- Patient Right.
- Therapist Feedback. Like when you are taking an EKG or you take your temperature...
- Patient Right.
- Therapist The thermometer gives you biofeedback. Well, you are getting the best feedback you can get for your blood pressure by monitoring it. And this, I

think, has made really good connections for you and I want to encourage you to continue. **(Continuation of the monitoring and documentation of blood pressure readings was a primary strategy for maintenance of adherence.)**

Patient I will.

Therapist I don't know if you need to do it on a daily basis. **(However, the therapist did not want this data-gathering to become oppressive or an excessive preoccupation for the patient.)**

Patient Yeah. I was getting ready to say I don't. At least once a week, or once...

Therapist Yeah.

Patient At least once a week, I would keep it.

Therapist Right. Right.

Patient And if it is high or out of control for that day, then I would do it for the next two or three days and make sure it gets down.

Therapist Yeah. I mean, for our purposes, this daily monitoring has been excellent. But I don't know....

Patient I don't think it is necessary to do it on a daily basis, every day. But it is something I still need to do. **(The patient was making her own decision about this based on her knowledge and experience.)**

Therapist Right.

Patient To be aware of.

Therapist Right. Absolutely. Have you seen the doctor recently?

Patient I saw the doctor when I came back from off vacation. I had my pressure taken in his office.

Therapist And what did he say about the pressure?

Patient Pretty good.

Therapist He was impressed?

Patient He was impressed.

Therapist Did he want to make any changes?

Patient No. I just continue to do what I am doing. Get my workouts done.

Therapist Get your workouts in the gym?

Patient Yeah. Well. It doesn't really have to be in the gym. Just something that I am comfortable with.

Therapist OK.

Patient The 28th ... That Tuesday...

Therapist You saw him November 28th?

Patient I saw him November the 28th. And just basically, we talked. And he checked the pressure. It was like 142 over 90. Which was pretty good for me, for the office.

Therapist Yeah. It seems to go up in the office.

Patient Yeah. Up in the office. Yeah.

Therapist Do you get a little nervous when you are getting it done here? **(Again, the therapist was checking out an issue that arose previously and was unresolved.)**

Patient Probably. Um. Yeah. I think I do. Not nervous, but tense.

Therapist Yeah.

- Patient Because I know I don't want it to be high, but you know how you just can't relax when somebody is telling you to relax. **(This issue was also something that arose the first time that the therapist attempted to do a relaxation induction with the patient and she had a paradoxical reaction where her blood pressure spiked to a severe level. Here the patient was confirming that she does not respond well to directives.)**
- Therapist Right. Right.
- Patient So, yeah. I think so.
- Therapist They call that performance anxiety.
- Patient Yeah. Yeah.
- Therapist I know people who are about to take a test...
- Patient But nothing compared to the way it used to be in the office. It was like 180 over 120 something.
- Therapist Yeah.
- Patient So that was a *big* improvement as far as he was concerned.

Next, the therapist raised the issue of potential obstacles to the patient's compliance with her prescribed medical regimen.

- Therapist OK. Uh. Now I wanted to talk about when you come in to obstacles or barriers to your doing what you are supposed to do, which is the exercise.
- Patient Um huh.
- Therapist In other words uh you might have a situation where you have a 12-hour workday... **(Here, the therapist was helping the patient to plan to prevent reversion to prior attitudes, behaviors, situations, and to plan responses for the development of any future pitfalls that may arise.)**
- Patient Right.
- Therapist And you're feeling... That will be the situation, a very long workday. The feeling is exhaustion, fatigue. You might be down. You might be sad. You might be very stressed. So, those would be the feelings, the emotions that go with that situation. And just think about this. All right. And then the thought that might run through your head would be, "I am too tired. Forget it." OK? Then, I want you to, when you come up against this sort of situation, make a conscious, well-informed decision or choice about what you are going to do next. You know, given that you are tired, given the situation, given what you are thinking. How are you going to make a conscious, well-informed decision or choice about what to do? You want to say something? **(The therapist was utilizing the cognitive-behavioral technique of tracing and revising dysfunctional thoughts. Here, the patient was presented with a hypothetical situation, ensuing feelings, and thoughts, and then, the therapist was attempting to illustrate rational, functional responses that the patient could consider.)**

- Patient Yeah. Uh. In that situation like that, I find that even a 15-minute power walk, if there is no more than 15 minutes, to just leaving the office and going for a walk...
- Therapist Um huh.
- Patient Does wonders for me.
- Therapist OK.
- Patient Just the fact to just get out. I don't care how tired I am, or what, walking doesn't tire me out. And if I am even going from one corner to the next, that is a big improvement for me. Just to get away from everything. Where I don't have anybody calling my name. I don't have any phone calls. Or anyone addressing me at anything. When I am walking, I don't have to worry about, unless I see somebody that I know, stopping to talk to anyone or say anything. And that makes a big difference. Even if it is just for 15 to 20 minutes. And even if I am working those late hours like that, I make it my business. I don't care if I have to lock the door to go, to come back, and they have to wait 15 minutes or a half an hour till I get back. That is basically what I would do. Because I need to do that. (Laughs).
- Therapist So that is an excellent option for you?
- Patient Yep. Yeah.
- Therapist It sounds like a well-informed, conscious choice. **(The therapist was intentionally repeating the words, "well-informed, conscious choice," in order to strongly plant this idea in the patient.)**
- Patient It doesn't sound like much. But it is a big.... I noticed the difference in just... Even if it is not 30 minutes. It can be 15 minutes. It can be 20 minutes. Just to get away.
- Therapist Um huh.
- Patient Then I come back like a different person.
- Therapist Excellent. Well. Let me give you another example of how you can respond to the same situation and that option is excellent. You might say to yourself, in response to saying, "I am too tired. Forget it. I can't even take that walk," you might say, "I worked excessively long. I have very little physical reserve. I am emotionally stressed and sleep will help." So sometimes, uh, just taking a rest is going to help. That is another thing, where you might be home and be able to do that. Or, having contact with a supportive person. Like sometimes, just grabbing your husband and saying, "you know, can you give me 15 minutes and just let me ventilate? Don't say anything. Just let me blow off some steam." And that is a third thing that you can do to respond. Um. And a fourth thing would be the stress management exercises. Sometimes listening to those tapes would do you more good than the physical exercise. Again, depending what is going on and what the situation is. So, I just don't want you to get into the role where you are saying you should do this, or you shouldn't do this. **(The therapist was attempting to provide the patient, not only with options, but permission to be flexible, as the patient had a tendency to**

be hard on herself and to become entrenched in duties, responsibilities, and “shoulds.”)

Patient No. I know my limits and I know what I should do, what I shouldn't do, what I can do at that particular time. So, yes. **(The patient is, again, referring to her sense of independence and self-reliance.)**

Therapist So you'll do...

Patient I'll do...

Therapist What you believe will give you the most benefit...

Patient Right.

Therapist And I want you to have a whole spectrum...

Patient Certain things require certain...

Therapist Of choices.

Patient Yeah. Sure.

Therapist OK. Because its... You have so many choices. And it sounds like you are now in a position to give yourself permission...

Patient Yep.

Therapist To make whatever choices that will be in your best interest. Yes? **(The therapist continued to use the word “choices” repetitively, cognizant of the patient's desire and proclivity to be independent and self-determining.)**

Patient Yes.

Therapist So. Um. And then we talked about how sometimes the diet, the stress management, and the exercise... In other words, you are making 100% effort to follow the treatment regimen. Sometimes, it doesn't bring around the results. And that is not your fault. It is the nature of hypertension... **(The therapist was allowing for the outcome to be less than successful in terms of blood pressure management, even with full compliance. This is sometimes the case with chronic disorders, such as hypertension.)**

Patient Um huh.

Therapist Or the nature of your physical condition at any particular time. And thankfully, with high blood pressure, there is another option, and that is a very effective option to this point, and that is the correct medication. So, it's not true of all disorders. **(Once again, the therapist put forth the idea that medication may be a necessary component of the patient's treatment regimen and tried to frame this in a positive manner.)**

Patient No. No.

Therapist So it's fortunate...

Patient That that one works. (Laughs).

Therapist This works.

Patient Yeah.

Therapist And the last thing is, I think I don't need to tell you, that you need to see either Dr. (K.B.) or, (hold on a minute...) or, the Physician's Assistant on a regular basis. So. I don't know what kind of a schedule you have. When I say regular, what kind of a schedule do you think would consist of a

- regular basis? **(The therapist was suggesting that the patient must maintain ongoing and regular follow-up medical care.)**
- Patient Well, I think every three months I will see them, and I think every 6 months, he wants to take blood tests, my sugar level.
- Therapist Uh huh.
- Patient My cholesterol.
- Therapist So, he is going to monitor your sugar and cholesterol?
- Patient Yeah.
- Therapist Oh, that is great. **(The therapist was pleased that the physician had noted and responded to the therapist's report regarding the patient's family history of diabetes.)**
- Patient At least twice a year for that. And every three months just to check with him to make sure everything is functioning correctly.
- Therapist OK. And how about me? What would you like to do? Get to me on an as needed basis?
- Patient I think so.
- Therapist Or...
- Patient As needed. Yeah.
- Therapist OK. Are you comfortable that you can call me anytime you feel you need a booster?
- Patient Now then before.
- Therapist You mean before...
- Patient Before we started. Yeah. I mean, in the beginning. **(The patient seemed to be confirming that her relationship with the therapist had changed over the course of the treatment. She began treatment at one level of comfort and trust and she progressed to an increased level.)**

The therapist attempted to present a spectrum of possible situations that the patient may face and to provide the patient with multiple options/choices for response. This contingency planning was what should make maintenance of the patient's normalized and stabilized condition a likely outcome. The maintenance plans and the contingency plans put forth seemed acceptable to the patient and she seemed to desire an on-going open-door policy vis-à-vis the therapist.

The patient then summarized the primary benefits that she believed she derived from the treatment. She was especially appreciative of the relaxation tapes, the power walk, the "time-out" from stress, and the change in attitude regarding making herself and her health a priority.

Patient No. Just to thank you very much for your help. The tapes was a big... That was something that I would have never considered on my own. So you were a great help in that. The power walk. Like, I always did walk, but I didn't think of them as that. That was a great help, too. And just the idea of just leaving, like I said, leaving the office for a few minutes, was a great help to me. And that is something that I didn't do last year. You know, I worked the hours, I stayed and I made sure everybody was, you know...And now I am at the point when, again, something I would not have done last year. It is, like, this is for me. And they have to wait. Or they can get somebody else to work the hours, that I need to go and do these things.

The session concluded with the therapist congratulating the patient on her efforts and her success, and she reminded the patient that she could actually see (through documentation of normalized blood pressure readings) the benefits of her efforts. The patient was invited to re-establish or maintain contact with the therapist on an as-needed basis.

SUMMARY AND CONCLUSIONS

The case summary involved a patient referred by her primary care physician for noncompliance with the prescribed medical regimen. She was a 43-year-old African American female suffering from primary (or essential) hypertension. The patient's blood pressure, as assessed at the time of referral (September, 2000), had been monitored and documented to be in the consistently high range since 8/5/00 (see Table 1, Pre-intervention Blood Pressure Readings, 2/25/00-9/22/00). She was first diagnosed with hypertension in March, 2000. The physician had prescribed, as a first line treatment, that the patient institute a regimen of diet (i.e., low sodium intake) and exercise (i.e., at least one hour of strenuous exercise at least three days per week). For reasons to be determined, the patient was unable to carry out the exercise regimen, unable to normalize her blood pressure, and remained very resistant to taking any anti-hypertensive medication.

The therapist, beginning 9/15/00 and ending 12/8/00, saw the patient a total of nine sessions. The first two sessions consisted of assessment. The first session involved a comprehensive psychosocial intake evaluation and the administration of an original instrument called the Health Behavior Profiling Questionnaire (HBPQ). The HBPQ is a 277-question instrument requiring yes or no answers. The range of questions covers five primary categories of concern when assessing noncompliance with a medical regimen, especially directed to a patient suffering from a chronic disease. The categories (or domains) are; patient characteristics, health status, treatment regimen, patient-provider interaction, and environment.

The second session involved reviewing the questions that had been “flagged” by the therapist (i.e., questions answered in a way that indicated that the particular item was a potential issue or problem area for the patient). The third session involved giving the patient feedback regarding the treatment findings to date (based on information from the physician, the patient medical records, and the material provided by the patient in the first two sessions) and development of treatment goals and plans. The “Report to Physician,” 9/22/00, Appendix E, contains a concise overview of the findings (i.e., the information derived from the psychosocial intake evaluation, the HBPQ, and the ensuing case conceptualization) and treatment goals and plans. After the physician approved the report and the plans, the actual treatment interventions began.

The treatment, as provided in Sessions 4 through 8, addressed the six intervention targets (stress management, blood pressure monitoring, education, dietary monitoring, problem-solving to overcome barriers to compliance, and addressing dysfunctional beliefs related to compliance). Cognitive-behavioral techniques, integrated with, or complemented by, other modes of therapy such as relationship enhancement, and insight-oriented therapy, (Meichenbaum and Turk, 1987), proved highly effective with this patient. The therapeutic strategies and interventions were timed and staged, based on the patient’s individual characteristics, situations, disease, and her environment. The patient was responsive to the following specific cognitive-behavioral techniques: goal-setting, engaging the patient as an active participant in the decision-making process, patient education, choice-giving to the patient, self-attribution, emotional inducements in the form of fear messages, self- monitoring and documentation, stress

management (relaxation exercises in the office and at home), guided imagery, and cognitive restructuring (Meichenbaum and Turk, 1987).

In Session 9, maintenance and relapse prevention were the focus of treatment. Successful efforts throughout the course of the treatment were reviewed and reinforced. The reinforcement consisted of verbal accolades from the therapist, but more importantly, the patient was referred to her own self-monitored outcome data and her own testimony regarding changes in attitude, skills, and behaviors. She had developed an appreciation of her efficacy and competence. In order to maintain her progress, to prevent reversion to former problematic situations, and to insure that the patient had the ability to cope with future problems regarding her health, the therapist engaged the patient in the development of the following skills: self-regulatory skills, planning and problem-solving skills, attribution retraining, self-control of medication, coping with high-risk situations, anticipation and preparation necessary to deal with any altered outcome (i.e., elevation of blood pressure despite full compliance), assertiveness skills, and coping strategies and skills (Meichenbaum & Turk, 1987).

OUTCOME MEASUREMENT

The “Physician Report” (1/3/01), found in Appendix H, indicated that the physician had rated the patient’s suspected compliance level at baseline (time of referral) on a 5-point Likert-type rating scale and at 4 weeks post-treatment. The Likert-type rating scale was also used to indicate estimated degree of increased compliance and to indicate improvement in medical condition. These were all subjective ratings. Additionally, the physician had indicated changes in the patient’s condition that were

documented, objective medical measures. In this case, physiological feedback in the form of blood pressure readings (systolic and diastolic) was utilized.

The physician rated the patient's baseline suspected level of compliance as poor (i.e., 1 on a scale of 1 to 5). He rated her current (i.e., at the time of the report, 1/3/01) compliance to be very good (4 on a scale of 1 to 5, with 1 being poor and 5 being excellent). The physician estimated that the patient increased her compliance much and that her medical condition has improved much (on a 1 to 4 scale, with 1 being not at all, 3 being much, and 4 being very much). The physiological measures indicating the patient's health status at the time of referral (the patient's blood pressure readings) were 140/91 effective 9/15/00 and 173/120 effective 9/22/00. The physiological measures, which the physician employed in assessing the patient's health status at the time of the outcome measurement, were "activity diary and blood pressure monitoring." The physician's concluding comments were, "Compliance with recommendations has resulted in normal range of blood pressure readings."

The patient's self-report regarding her personal evaluation of treatment outcome was captured throughout the annotated material included in the case summary. It was also illustrated with hard data provided by the patient in the form of self-monitored and documented blood pressure readings, taken almost daily, from the inception of contact with the therapist (and very frequently prior to that, beginning with her initial diagnosis of hypertension). She also began monitoring and documenting her exercise activity level effective 9/26/00. The patient's primary compliance-related behavioral change was evidenced by her ability to overcome the obstacles to exercise. Subjectively, the patient reported extensive and significant changes in her attitudes, feelings and

behaviors, extending to her relationships, priorities, work, family, and self.

Additionally, the patient only required anti-hypertensive medication two times since the beginning of assessment and treatment (9/15/00), and the dates were 9/29/00 and 10/20/00. The medication was taken per the physician's instructions to take a pill after three consecutive diastolic blood pressure readings above 90mmHg. The fact that the patient took the medication as directed, of her own accord, was an indicator of compliance, as one of her major areas of resistance was taking medication for her hypertension. This behavior involved a shift in the patient's initial beliefs and attitudes toward medication. It should be noted, however, that this shift in attitude was minor, though enough to produce an effective response and outcome.

Tables 5 through 10 display the data based upon the patient's self-monitored and documented blood pressure readings beginning 2/25/00 and ending 12/8/00. The mean was 153.00mmHg ($SD = 16.98$) for the pretreatment (baseline) systolic blood pressure readings ($N = 37$) and 97.57mmHg ($SD = 12.92$) for the diastolic measures ($N = 37$). This data covered the period from 2/25/00 to 9/22/00.

The mean systolic blood pressure for the treatment period (9/26/00 – 11/10/00) was 132.13mmHg ($SD = 16.46$, $N = 52$) and the mean diastolic pressure was 83.19mmHg ($SD = 12.47$, $N = 52$). The follow-up period (11/11/00 – 12/8/00) indicated a further decrease in the patient's overall blood pressure, with a mean systolic pressure of 127.20mmHg ($SD = 9.93$, $N = 30$) and a mean diastolic pressure of 78.27mmHg ($SD = 10.36$, $N = 30$). (See Table 5.)

Table 6 shows that the mean systolic blood pressure readings lowered by 13.65% from pretreatment through to the end of the treatment period and the diastolic lowered

by 14.73%. Between the completion of the treatment period and the follow-up period (i.e., 11/10/00 to 12/8/00), the systolic readings lowered by 3.73% and the diastolic by 5.93%. From baseline (the pretreatment period) to termination (the follow-up period), the total percentage of change in mean systolic blood pressure readings reflect a 16.87% lowering of the patient's systolic blood pressure and a 19.78% lowering of the mean diastolic blood pressure.

Table 7 indicates the frequency with which the patient documented her blood pressure from the time of her initial diagnosis of hypertension (2/25/00) to the termination of the case study (12/8/00). She charted a total of 119 readings. Table 8 indicates that the range of systolic blood pressure readings from pretreatment (baseline) to follow-up (post-treatment) was 104mmHg to 194mmHg ($\underline{M} = 137.38$, $\underline{SD} = 18.55$). The diastolic blood pressure readings ranged from 52.00mmHg to 120mmHg ($\underline{M} = 86.42$, $\underline{SD} = 14.32$).

Table 9 shows that 89.18% of the patient's systolic readings and 72.97% of the diastolic readings were abnormal in the pretreatment phase of the case study. In the follow-up/termination phase of the study, only 13.33% systolic and 6.66% diastolic readings were abnormal. (The abnormal range is considered to be any reading of 140mmHg or above systolic and 90mmHg or above diastolic.)

Table 10 presents the number and percentage of normal versus abnormal blood pressure readings between treatment phases. From the pretreatment phase (2/25/00 – 9/22/00) to the follow-up/termination period (ending 12/8/00), the number of the patient's abnormal systolic blood pressure readings dropped from 61.11% ($\underline{n} = 33$)

down to 7.40% ($n = 4$). For the same period, the patient's number of abnormal diastolic blood pressure readings dropped from 61.36% ($n = 27$) to 4.54% ($n = 2$).

TABLE 5

Blood Pressure Readings from Pretreatment to Follow-Up

		Systolic (mmHg)	Diastolic (mmHg)
Pretreatment (2/25/00 – 9/22/00)	<u>n</u>	37	37
	Mean	153.00	97.57
	<u>SD</u>	16.98	12.92
Treatment (9/26/00 – 11/10/00)	<u>n</u>	52	52
	Mean	132.13	83.19
	<u>SD</u>	16.46	12.47
Follow-up (11/11/00 – 12/8/00)	<u>n</u>	30	30
	Mean	127.20	78.27
	<u>SD</u>	9.93	10.36

TABLE 6

**Percentage of Change in Mean Blood Pressure Readings
From Pretreatment to Follow-up**

	Systolic (mmHg)	% Change Systolic	Diastolic (mmHg)	% Change Diastolic
Pretreatment <u>n</u> = 37	<u>M</u> = 153.00 <u>SD</u> = 16.98		<u>M</u> = 97.56 <u>SD</u> = 12.92	
Treatment <u>n</u> = 52	<u>M</u> = 132.13 <u>SD</u> = 16.46	13.65% ^a	<u>M</u> = 83.19 <u>SD</u> = 12.47	14.73% ^a
Follow-up <u>n</u> = 30	<u>M</u> = 127.20 <u>SD</u> = 9.93	3.73% ^b	<u>M</u> = 78.27 <u>SD</u> = 10.36	5.93% ^b
Pretreatment to Follow-up Total <u>N</u> = 119	<u>M</u> = 137.38 <u>SD</u> = 18.55	16.87% ^c	<u>M</u> = 86.42 <u>SD</u> = 14.32	19.78% ^c

Note. N = number of measurements of the patient's blood pressure.

a = % of change from pretreatment to end of treatment period.

b = % of change from treatment to end of follow-up/termination period.

c = % of change from pretreatment to the end of follow-up/termination period.

TABLE 7

**Frequency of Blood Pressure Readings
Pretreatment Through Follow-up**

	Frequency	Percent	Valid Percent	Cumulative Percent
Pretreatment	37	31.1	31.1	31.1
Treatment	52	43.7	43.7	74.8
Follow-up	30	25.2	25.2	100.0
Total	119	100.0	100.0	

TABLE 8

**Blood Pressure Ranges
From Pretreatment Through Follow-up**

	<u>N</u>	Minimum (mmHg)	Maximum (mmHg)	Mean	Std. Deviation
Systolic	119	104.00	194.00	137.38	18.55
Diastolic	119	52.00	120.00	86.42	14.32
Valid N (listwise)	119				

TABLE 9

**Percentage of Normal versus Abnormal Blood Pressure Readings
Within Each Phase of Case Study**

	<u>N</u>	Systolic Blood Pressure		Diastolic Blood Pressure	
		% Normal	% Abnormal	% Normal	% Abnormal
Pretreatment	37	10.81	89.18	27.02	72.97
Treatment	52	67.30	32.69	71.15	28.84
Follow-up	30	86.66	13.33	93.33	6.66

TABLE 10

**Percentage of Normal Versus Abnormal Blood Pressure Readings
Inter-treatment Phases**

		Systolic Blood Pressure		Diastolic Blood Pressure	
		% Normal (<u>n</u>)	% Abnormal (<u>n</u>)	% Normal (<u>n</u>)	% Abnormal (<u>n</u>)
Pretreatment	37	6.15 (<u>n</u> = 4)	61.11 (<u>n</u> = 33)	13.33 (<u>n</u> = 10)	61.36 (<u>n</u> = 27)
Treatment	52	53.84 (<u>n</u> = 35)	31.48 (<u>n</u> = 17)	49.33 (<u>n</u> = 37)	34.09 (<u>n</u> = 15)
Follow-up	30	40.0 (<u>n</u> = 26)	7.40 (<u>n</u> = 4)	37.33 (<u>n</u> = 28)	4.54 (<u>n</u> = 2)
Total	119	100.0 (<u>n</u> = 65)	100.0 (<u>n</u> = 54)	100.0 (<u>n</u> = 75)	100.0 (<u>n</u> = 44)

CONCLUSIONS

Defining and delineating the problem is a prerequisite to effective treatment. The assessment procedure that was developed by the author is original, comprehensive, and based on theory from the field of health psychology, sound clinical practice, and empirical evidence (Bayer Institute for Health Care Communication, 1996; Blackwell, 1996; Blumenthal & McKee, 1987; Glanz, Lewis, & Rimer, 1990; Haynes, 1979; Maddux & Rogers, 1983; Meichenbaum & Turk, 1987; Prochaska, DiClemente & Norcross, 1992; Rosen, Brondolo & Kostis, 1994; Rosenstock, 1990; Sarafino, 1998). The empirical evidence was derived from an extensive review of studies covering a cross-section of chronic illnesses with a cross-section of populations. The variables related to compliance with medical regimen were categorized into the five domains of the HBPQ and translated into the form of questions that could be answered with a yes or no.

The assessment procedure utilized in this case summary could potentially be utilized with any patient suffering from a chronic illness, especially where noncompliance with the medical regimen is either suspected or founded. However, research regarding the reliability and validity of the HBPQ is required. To review, the assessment procedure involved a comprehensive psychosocial intake evaluation, administration of the Health Behavior Profiling Questionnaire (HBPQ) to the patient, and a second phase review of the “flagged” items with the patient in order to obtain clarification and expansion of the information obtained on the HBPQ.

The development of a treatment conceptualization and treatment goals and plans (i.e., specific interventions) was the next step in the process. The ensuing

conceptualization, goals and plans, must be totally individualized, based on the findings in the assessment phase of the case. The actual treatment could proceed on the plan derived from agreement between the referring physician, the therapist, and the patient. Cognitive-behavioral techniques, combined with other indicated and empirically validated psychotherapeutic modalities, could provide an effective regimen of treatment interventions for the problem of noncompliance with medical regimen for individuals with chronic illness.

There is an inherent limitation in making any definitive claims regarding the applicability of the assessment and treatment utilized in this case study to the general population of patients with the problem of nonadherence to medical regimen. The limitation is that there is always the issue of generalizability with an individual case study. Therefore, the author recommends empirical research, such as that proposed in Chapter 6, in order to further study the applicability of the methodology used in this case to other individuals.

CHAPTER 5

LITERATURE REVIEW

INTRODUCTION

In this literature review, research related to the development of a health profile instrument, the Health Behavior Profiling Questionnaire (HB PQ), and an associated structured clinical interview are examined. Particular focus is placed upon assessing nonadherence to medical advice and medical regimens prescribed for chronic conditions. The factors that were incorporated into the questionnaire and the related clinical interview were derived from a combination of theory, research and clinical practice. After reviewing the material related to assessment and conceptualization of nonadherence to medical advice, a review of treatment and intervention theories/models will be provided.

Blackwell (1996) has traced the history of the literature on “compliance.” Through a review of Medline, these data reveal that during recent years (a five year period from about 1990), between 800 and 900 articles on compliance were published annually. Over 12,000 articles have been published on the topic of compliance in the past 25 years, about half being review articles and the remainder original articles.

Definition

The most popular definition of compliance is derived from Haynes (1979). Compliance is defined as the extent to which a person’s behavior (in terms of taking medication, following diets, or executing lifestyle changes) coincides with medical or health advice (Blackwell, 1996; Haynes, 1979; Sung et al., 1998; Taber, 1997).

According to Levy (1987): “Compliance is what occurs when the patient carries out an assignment in the way it was given by the assignment giver(s). The patient adheres to the treatment assignment” (p. 567). Noncompliance is “the failure or refusal of a patient to cooperate by carrying out that portion of the medical care plan under his or her control (e.g., not taking prescribed medicines or not adhering to the diet or rehabilitation procedures ordered” (Taber, 1997, p. 1307) or more simply stated, “a person’s informed decision not to adhere to a therapeutic regimen” (Taber, 1997, p. 2420).

Clinicians, researchers, and theorists in the fields of medicine, health psychology, and social science do not agree on whether the term compliance or adherence (or conversely, noncompliance or nonadherence) is preferable. Nonadherence seems to be currently more politically correct in that it implies more patient assertion and participation, as opposed to passivity in the face of authority. The author uses the terms interchangeably in this review. According to Halloran (1992/1993), it is also important to consider that research findings question whether the definition of compliance (100% adherence to suggested regimen) is an appropriate standard to apply to health behavior. Steiner and Earnest (2000) have raised the same issue. Clearly, people can make decisions, either informed or uninformed, voluntarily, or involuntarily, about their medical regimen, and can achieve desirable outcomes.

Statistics Regarding Incidence of Nonadherence

Estimates regarding the incidence of nonadherence in general (i.e., nonadherence to preventive regimens, to curative regimens, lifestyle changes, and long-term regimens), range from 4% to 98%, with a typical range of 30% to 60% (Bayer Institute for Health Care Communication, 1996; Blackwell, 1996; Dean & King, 1999; Halloran, 1992/1993;

Harowski, 1983/1984; Meichenbaum & Turk, 1987; Sung et al., 1998). Once again, as in the definition of compliance, Haynes et al. (1979) are frequently cited about the fact that 50% of all patients on long-term regimens fail to adhere (Bayer Institute for Health Care Communication, 1996; Meichenbaum & Turk, 1987). Steiner and Earnest (2000) state that hundreds of studies have found that only 50% to 60% of patients take their medications for chronic diseases as prescribed. The lowest adherence rates “occur with patients who have chronic disorders, when no discomfort or risk is evident, when life-style changes are required, and when prevention instead of symptom palliation or cure is the desired outcome” (Meichenbaum & Turk, 1987, pp. 22-3). Dean and King (1999) estimate a range of 15% to 93% and Sung et al. (1998) estimate 33% to 94% as nonadherence rates for medications used for a variety of medical disorders and for long-term prevention or treatment. Sarafino (1998) reports 54% as the average rate of adherence for taking medicine for chronic illnesses with long-term regimens. Clark and Cibul (1999) reported that 30% to 50% of medication prescriptions fail because they are being taken incorrectly or were never filled in the first place. The financial costs alone of nonadherence are staggering, up to \$100 billion in healthcare and productivity (Bayer Institute for Health Care Communication, 1996), but the human costs are beyond reckoning.

Theory and Practice

In this section, the predominant models that attempt to explain health-related behaviors and their concomitant underlying “health beliefs” are reviewed. Their relevance comes from the fact that, collectively, they provide a majority of the theoretically derived variables utilized in the development of the profiling instrument, the

Behavior Profiling Questionnaire (HB PQ). Nine theories were selected for review based on research findings providing some empirical evidence for the validity or substantiation of these theories/models.

Although the validity and reliability research related to each theory will not be reviewed in detail, some of the limitations associated with the models will be specified. In order to derive both a comprehensive assessment and a comprehensive, effective treatment model, there is a need to combine or integrate these models. Once the targets of intervention have been identified, the processes and methods to bring about changes in the target variables must be identified and implemented. All of the theories/models of health-related behaviors have either implicit or explicit implications for interventions. This treatment-related material will be included in the review.

The models/theories to be reviewed and examined will be:

1. The Health Belief Model (HBM)
2. Fishbein/Ajzen's Theory of Reasoned Action
3. Multiattribute Utility Theory
4. The Protection Motivation Theory (PMT)
5. Social Learning Theory (SLT)/Social Cognitive Theory and the Self-Efficacy Model
6. Attribution Theory
7. Transtheoretical Theory
8. The Biomedical Approach
9. Theory of Information Processing/Consumer Information Processing

Value Expectancy Theories

Behaviorists such as Skinner believe that behavior is determined by consequences (reinforcement contingencies) that influence behavior directly (Rosenstock, 1990).

Cognitive theorists focus on the role of subjective expectations as influencing behavior, where “behavior is a function of the subjective value of an outcome and of the subjective probability or expectation that a particular action will achieve that outcome” (Rosenstock, 1990, p. 40). The reinforcements or consequences of behavior operate on behavior by influencing expectations regarding a situation.

In the context of health-related behavior, value expectancy relates both to a person’s desire to avoid illness or get well (the value) and to the belief that a specific health action will prevent or relieve illness (the expectancy). Expectancy also involves beliefs regarding personal susceptibility to, and severity of, an illness and the likelihood of reducing the threat through personal action (Rosenstock, 1990). Other diverse variables (e.g., demographic, sociopsychological) are believed to indirectly affect behavior by influencing perception (of susceptibility, severity, benefits, barriers, and efficacy expectations). In sum, Value Expectancy Theories “provide a way to define and assess the elements of health decisions” (Glanz, Lewis, & Rimer, 1990, p. 35). The Value Expectancy Theories are also psychological theories or social cognitive theories of health behavior in that they attempt to explain how cognitive and social factors contribute to health and disease. This group of theories includes the Health Belief Model (Rosenstock et al.), Social Cognitive Theory (Bandura), Fishbein and Ajzen’s Theory of Reasoned Action, Ajzen’s Theory of Planned Behavior and Rogers’ Protection

Motivation Theory (Bandura, 2000). The Health Belief Model is the first of the Value Expectancy Theories to be reviewed.

The Health Belief Model (HBM)

Hochbaum, Rosenstock, and their colleagues first developed the Health Belief Model (HBM), one of the earliest models developed to explain health behavior, in the 1950s. It is currently one of the most influential and widely used psychosocial approaches to explaining health-related behavior and is a foundation of health education (Glanz, Lewis, & Rimer, 1990; Rosenstock, 1990). It is based on Value Expectancy Theory in that it explains behavior as a result of how much value a person attributes to an outcome, interacting with the expectancy the person has that a particular behavior will produce this outcome (Rosenstock, 1990). The components of the Health Belief Model include perceived threat and outcome expectations.

People are motivated to carry out preventive health behaviors based on their perception of threat to their health. Perceived threat refers to the degree the individual perceives that he/she is susceptible or vulnerable to a given condition of ill health. This dimension of perceived susceptibility has been reformulated to include acceptance of the diagnosis (e.g., a patient who fails to believe in the possibility of having pathology in the absence of symptoms). A related aspect refers to what degree a condition is perceived as a serious or severe one. In other words, how important does the individual feel it is to avoid this outcome? This includes evaluation of medical, clinical, and social consequences (Rimer, 1990). The individual's readiness to act is affected by perceived vulnerability (susceptibility) to the threat and the perceived severity of the threat. Other variables regarding readiness to act are beliefs about the benefits weighed against the

costs or barriers to performing the action/behavior. The HBM further suggests that a cue or trigger to action is required to set the other variables in motion (Quine, Rutter, & Arnold, 2000).

Susceptibility and severity beliefs are outcome expectancies. Abraham and Sheeran (2000) report that, across many studies, susceptibility and severity beliefs have been shown to correlate only slightly (accounting for only 1-2% of the variance in behavior) with measures of health-related behavior.

Outcome expectations of the patient are extremely important. Outcome expectancies are beliefs about what will happen if the person does or does not perform a particular action or sequence of actions (Abraham and Sheeran, 2000). The Health Belief Model views compliance “as based on a rational appraisal of the balance between the perceived benefits of treatment and barriers to obtaining it” (Blackwell, 1996, p. 146). The perceived benefits of the recommended action or behavior change relate to how helpful the individual believes it will be if he/she follows the recommendation. The perceived barriers to this action or change relate to how feasible it is for him/her, and how serious the factors are that are standing in the way. Weighing the potential negative aspects of a particular health action is part of a cost-benefit analysis. Barriers include items such as cost, scheduling, inconvenience, job security, and, more latent barriers, such as access and motivation (Friedman et al., 1995). In weighing the costs, other barriers to be considered include physical, financial and emotional. The emotional cost takes into account what the prescribed behavior means for the patient, as well as what impact adherence has within the context of the patient’s life (Meichenbaum & Turk,

1987). Each individual's assessment is related to demographic, sociopsychological, and structural variables (Sarafino, 1998).

In addition to perceived barriers to action, response efficacy (i.e., the perceived effectiveness of health-related actions) is also related to outcome expectancies. Bandura introduced the concept of self-efficacy, or efficacy expectation, in 1977 (Bandura, 1977). The component of efficacy expectations, taken from Social Learning Theory (to be reviewed in this chapter), has been added to the HBM in recent years. It provides recognition that an individual will not pursue a recommended action or behavior change unless he/she believes that they can carry it out successfully.

The Health Belief Model focuses on the intrapersonal level of health behavior determinants. However, it does not preclude the influence of other levels. In fact, each of the other levels of influence seems to have the potential to affect some other part of the HBM. Beliefs are not sufficient conditions to account for or predicate action/behavior. Beliefs and action are not always causally related. Both internal and external factors serve as cues to action. A broader, more inclusive model includes individual and socioenvironmental factors (e.g., institutional, community, and interpersonal) in addition to the intrapersonal factors (Bayer Institute for Health Care Communication, 1996; Friedman et al., 1995; Meichenbaum & Turk, 1987; Rosenstock, 1990).

While the Health Belief Model does not directly address intervention strategies, the implications for change strategies are implicit and include helping the patient to assess the threat to his/her well being, to engage in cost-benefit analyses, and to increase self-efficacy. The limitations of the HBM are: its limited predictive value; its inapplicability to all behaviors or diseases; the failure to delineate the concept of cue; and

how the role of fear may foster cognitive and behavior changes (Rimer, 1990; Rosenstock, 1990). Additionally, Sarafino (1998) points out that the HBM, like other models of rational choice, fails to adequately account for irrational decisions that people often make about their health. “Nonrational motivational and emotional factors can influence cognitive processes” (p. 178). Quine, Rutter, and Arnold (2000) report that despite theoretical and conceptual shortcomings (i.e., the lack of operational definitions of the model’s components and the lack of specificity regarding the relationship and interaction of the beliefs and explanatory variables), the HBM has received sustained empirical support. The HBM, as is the case with most of the models examined in this literature review, is likely to be most valuable when utilized in combination with other models (Rimer, 1990).

Fishbein/Ajzen’s Theory of Reasoned Action

Fishbein and Ajzen developed the Theory of Reasoned Action (TRA) in 1975. The TRA is a value expectancy theory in that it specifies the motivational determinants (i.e., attitudes and subjective norms) of values and expectancies. The theory hypothesizes that behaviors result from a rational process whereby people decide their intention in advance of most voluntary behaviors, and intentions are the best predictors or immediate determinants of what people would do. In other words, behavior is a direct result of behavioral intention. The strength of intention is a function of a person’s attitude toward the behavior (expectations and beliefs) and the influence of the social environment or general subjective norms (i.e., perception of the social pressures to perform or not perform the behavior) on the behavior. This perception about what other people think one should do is the expectation. The motivation to comply with these normative

references is the value. Attitude is determined by belief that a given outcome will occur (i.e., outcome beliefs/outcome expectations) and by an evaluation of the outcome or consequences (i.e., outcome values). The theory has frequently been applied to many health behaviors. In health-related applications, for example, outcomes can be associated with side effects anticipated from the medication (Bayer Institute for Health Care Communication, 1996; Carter, 1990; Gibbons, Gerrard, Ouellette, & Burzette, 2000; Glanz, Lewis, & Rimer, 1990; Gollwitzer & Oettingen, 2000; Sarafino, 1998; Trafimow, 2000).

A person's intention is determined by two attitudes: (1) attitude regarding the behavior and (2) attitude about a subjective norm. The two attitudes combine to produce an intention and the intention leads to performance of the behavior. Attitude regarding the behavior is the individual's judgment about whether the behavior is a good thing to do, based on beliefs about the likely outcome or consequences of any particular behavior and whether the outcome would be rewarding (Sarafino, 1998). The attitude towards that behavior, in turn, influences the intention to perform the behavior. In sum, attitudes and subjective norms are antecedents of intention formation; and intention formation, in turn, affects behavior. The constructs of attitude and subjective norm are relatively weighted, depending on the specific behavior in question. According to this paradigm, targeting beliefs, attitudes, and intentions can produce the desired behavioral change (Abraham & Sheeran, 2000; Agnew, 2000; Bayer Institute for Health Care Communication, 1996).

Fishbein and Ajzen describe behavior as having four elements: the action, the target at which the action is directed, the context in which it occurs, and the time at which it is performed. They posit that behaviors can be predicted by intentions, even though

outcomes cannot, as outcomes are controlled by other variables. Theoretically, intentions can be measured, behaviors identified, and other factors affecting outcome can also be accounted for (Bayer Institute for Health Care Communication, 1996). “The decision rule or maximization principle then says that people choose the behavioral alternative that they believe will provide them with the maximum number of good outcomes and the minimum number of bad outcomes” (Carter, 1990, p. 66). These principles do not apply to behaviors outside of personal control. The source of empirical information regarding outcomes (or consequences) that the individual associates with a specific behavior is obtained through open-ended interviews with the target population where subjects are asked to list what they perceive to be salient outcomes or consequences of performing the behavior (Carter, 1990).

Attitude about a subjective norm is a reflection of the impact of social pressure or influence regarding the behavior’s acceptability or appropriateness. In other words, an individual makes judgments based on beliefs regarding others’ opinions about the behavior and their motivation to comply with those opinions (Morrison, Baker, & Gillmore, 2000; Sarafino, 1998).

The Theory of Reasoned Action is a value expectancy theory, like the HBM and Multiattribute Utility Theory. It, like Multiattribute Utility Theory, described later, is also rooted in Information Processing Theory. The Theory of Reasoned Action places a stronger emphasis on attitudes than the HBM, but like the HBM and the other belief-based cognitive approaches to understanding health behavior (e.g., Protection Motivation Theory, and the Transtheoretical Model of Change), the role of beliefs is the key component in understanding health behavior. Each of the social psychological

models place different degrees of emphasis on specific types of beliefs (e.g., perceived threat or self-efficacy) (Agnew, 2000; Rimer, 1990).

Both the Theory of Reasoned Action and Multiattribute Utility Theory are models developed in order to predict a person's intention to perform a specific behavior. The decisional processes that underlie the intention (i.e., decisions involved in performing or not performing the behavior in question) are also included in the models. According to Carter (1990), these models can be applied to a variety of populations and behaviors and provide a reasonably accurate prediction of voluntary health behavior. They also suggest which decision-related dimensions may be most important to personal health decisions and behavior (Carter, 1990). The Theory of Reasoned Action has evolved from the social psychological area of research on the relationship between attitudes, beliefs, and behaviors. The Multiattribute Utility Model is derived from behavioral decision theory. Subjective judgments of value are called utilities in decision theory where they are called attitudes in the Theory of Reasoned Action (Carter, 1990).

Gollwitzer and Oettingen (2000) point to the shortcoming of the TRA and its expanded revision (the Theory of Planned Behavior). The strength of a behavioral intention is determined by motivational variables (i.e., expectations and values). Therefore, strategies are needed to translate intentions into goal-directed behaviors. A strong motivation can be enhanced by volition and self-regulatory strategies. Although Fishbein and Ajzen did not provide specific techniques to change behavior, strategies such as active participation (which includes interpersonal contact, role playing, counter-attitudinal behavior, and choice between alternatives) and the use of persuasive

communication, can bring about changes in beliefs, attitudes, and intentions (Bayer Institute for Health Care Communication, 1996).

Carter (1990) emphasized that the application of value expectancy theories in health education is limited to identifying the significant beliefs and attitudes for use in behavioral interventions, but that the strategies for the design of the intervention must come from other theories. Glanz, Lewis, and Rimer (1990) concur that the Theory of Reasoned Action must be supplemented by other theories in order to provide direction for intervention.

By providing a method for systematically identifying those issues that are most important to a person's decisions about performing a specific behavior, the Theory of Reasoned Action allows the subsequent behavioral interventions to address the relevant beliefs and attitudes (Rimer, 1990). "The effectiveness of interventions to encourage clients to initiate a change in their behavior is determined in large part by being able to identify the major concerns and barriers they confront in making the decision to change" (Carter, 1990, p. 63). Trafimow (2000) reports that normatively based interventions (i.e., programs with a social reinforcement) have been repeatedly shown to be effective, as have interventions based on attitudes (or the beliefs underlying attitudes). Individual differences and varied circumstances create a varying relative impact of attitudinal versus normative control in terms of behavioral intention and behavior.

Glanz, Lewis, and Rimer (1990) characterize Fishbein and Ajzen's Theory of Reasoned action as a "highly developed theory of behavior. It not only identifies and defines key variables that affect a person's intentions to act but also identifies the

sequence of variables and their interrelationships that predict the behavioral intention” (p. 21).

There has been an abundance of empirical research on the Theory of Reasoned Action. The theory has been extensively tested over a twenty-year period. Agnew (2000) reports that hundreds of empirical tests, across a broad range of health behaviors, in addition to two recent meta-analyses, found strong empirical evidence in support of the theory. According to Rimer (1990), Fishbein and Ajzen have achieved “rigorous quantification” with the Theory of Reasoned Action. Agnew (2000) further reports upon “the massive social psychological literature demonstrating the robust linkage between intentions and subsequent behaviors...” (p. 132). Other research, more moderate in terms of findings, has found support for aspects of the theory in explaining some health-related behaviors. Abraham and Sheeran (2000) report considerable variability in the strength of the intention-behavior relationship across different health behaviors. However, “intentions are reliably and moderately correlated with a range of health actions” (Abraham & Sheeran, 2000, p. 6). Across studies, intention measures account for 20%-25% of the variance in health behavior measures (Abraham & Sheeran, 2000).

Gibbons et al. (2000) report that the TRA has been proven successful at predicting a number of rational (or reasoned) behaviors in the health-protective arena (such as exercise), but less successful with high-risk negative behaviors (e.g., the less reasoned/rational behaviors such as smoking).

The predictive utility of the Theory of Reasoned Action is examined by Morrison, Baker, and Gillmore (2000) in a longitudinal study regarding condom use among

high-risk heterosexual teens. In a meta-analysis of 28 tests of the intervention-behavior relationship regarding condom use, a medium to strong correlation between intentions and condom use was found. Other studies point to the relationship being very generalizable to various populations. A greater number of studies have found both attitude and subjective norms related to intentions and findings were generalizable across populations (with few exceptions).

A shortcoming of the TRA (in the context of condom use) is that the theory focuses on volitional behavior (i.e., intention) omitting non-volitional variables. Morrison, Baker, and Gillmore (2000) report that when self-efficacy is added as a factor in TRA, the non-volitional variables can be addressed. These authors also stress that when attempting to determine the antecedents of behavior, the behavior and the population under study are likely to cause variation in the antecedents.

In sum, both the HBM and the Theory of Reasoned Action assume that people weigh perceived benefits and costs and then behave based on the outcome of their analysis. The theoretical limitations overlook the fact that behaviors are often based on unclear or incomplete knowledge or ideas about risks (costs) and benefits (Sarafino, 1998). Another criticism of the theory is its lack of recognition of emotional fear-arousal elements (e.g., perceived susceptibility to illnesses) (Rimer, 1990). According to Sarafino (1998), attitudes are not always predictive of behaviors. The theory is incomplete in that it does not include the role of prior experience with the behavior, where, in fact, history of past performance is a strong predictor of future practice.

Ajzen later revised the TRA to include perceived behavioral control as a predictor of intention in order to increase the predictive power of the TRA. Perceived behavioral

control is a motivational determinant regarding the behavior, as is attitude and subjective norm. These three determinants affect behavior by the mediation of a behavior intention (or goal). Perceived behavioral control is the degree to which a person feels that performance of the behavior is under his or her volitional control (i.e., “control beliefs” regarding resources, opportunities, obstacles, and impediments). Bandura, in his social cognitive theory of behavior, refers to perceived behavioral control as self-efficacy beliefs. The revised theory is referred to as the Theory of Planned Behavior (TPB) (Gollwitzer & Oettingen, 2000; Quine, Rutter, & Arnold, 2000).

In a prospective, longitudinal study which compared the HBM and the TPB in terms of their predictive utility regarding the use of safety helmets among schoolboy cyclists, Quine, Rutter, and Arnold (2000) found that the TPB had superior predictive utility, but that the two models had considerable conceptual overlap. These researchers conclude that both models/theories contain potentially useful variables, which can be utilized to explain and predict intention and behavior and can also aid in the development of behavior change interventions. The variables which produced the most robust effects and reliability leading to behavioral intention were perceived benefits, perceived barriers, subjective norm, and perceived behavioral control. Ajzen’s model of TPB, however, proved to have superior predictive power over the HBM.

A criticism of the TRA and the TPB raised by Bagozzi and Edwards (2000) is that the models only examine a small part of purposeful behavior. The primary focus of these theories is on antecedents of goal intentions without considering implementation intentions (and the antecedents) or processes related to goal attainment or failure. These theories are not designed to explain the achievement of outcome goals, but do apply to

the prediction of goal intentions and “specific acts in the service of goal pursuit” (p. 263).

Multiattribute Utility Theory

“Multiattribute Utility (MAU) Theory predicts behavior directly from an individual’s evaluation of the consequences or outcomes associated with both performing and not performing the behavior in question” (Carter, 1990, pp. 73-4). MAU Theory provides a methodical means of breaking down a decision into individual attributes (consequences or outcomes), having the decision maker evaluate each attribute, combining the evaluations into a score which is predictive of the likely course of action, and, if accurate, identifies the most influential attributes impacting on the decision-maker’s choice of action (Carter, 1990).

All of the formats of MAU Theory are variants of the general subjective expected utility (SEU) theories. These SEU theories posit that action depends on subjective values (utilities) attached to the probability that the action will lead to outcome. Fishbein and Ajzen’s Theory of Reasoned Action, the Health Belief Model, and the Multiattribute Utility Theory are all models of attitude-behavior and decision-making (Bayer Institute for Health Care Communication, 1996).

MAU can be applied to evaluate personal decisions, such as health-related decisions. Highly stringent, formal mathematical criteria are relaxed to adapt MAU theory to such personal decisions. One assesses, on a continuum for subjective probability, the extent to which a person believes that a consequence or outcome related to the behavior would argue for or against performing a particular behavior (Carter, 1990). This approach is called a “net-weighted utility model” and its validity is

determined by empirical assessment to assess the extent to which it accurately predicts the target behavior (Carter, 1990). SEU and net-weighted utility (NWU) scores range from +1.0 to -1.0, with a score above 0 indicating a favorable (pro) decision and a negative score indicating an unlikely behavior performance (con).

The content of the hierarchical utility model is derived from exploratory interviews with the target population. Issues, concerns, and knowledge are categorized by content area into perceived consequences in favor or not of performing the target behavior. The targeted individuals assign weights to indicate the extent to which that category of consequence argued for or against the behavior. The weights are further distinguished by having the individuals indicate the relative importance of each consequence to the final decision. The “relative-importance weights” can be combined with the “for and against weights” to yield a “net relative importance weight” for each consequence. The sum of the “net relative importance weights” yields an overall score used to predict behavioral intention.

Very few studies were found in the literature regarding MAU Theory as applied to health decisions. Carter, Beach, and Inui (1986) found a modest positive effect utilizing MAU Theory profiles of 479 patients at high risk for influenza. An informational brochure, which was designed utilizing MAU Theory principles, led to 36% of the study population getting flu shots as opposed to 23% of the controls (who only received a letter).

The MAU model has the ability to differentiate compliant from noncompliant individuals. Additionally, salient consequences and misconceptions can be identified and can suggest specific content areas for intervention. The research reported by Carter

(1990) found that the MAU model accurately predicted behavior or behavioral intention. Additionally, important dimensions of the decision that can be used in the design of intervention strategies were identified.

The Theory of Reasoned Action and Multiattribute Utility Theory have many common characteristics and “both approaches provide strong and valid behavioral prediction in a variety of settings” (Carter, 1990, p. 81). MAU Theory is, like the Theory of Reasoned Action, both a value expectancy theory and a derivative of Information Processing Theory (Rimer, 1990). Like social marketing, it collects and utilizes qualitative data for the purpose of understanding and altering individual decisions and behaviors (Rimer, 1990).

Differences in the two theories are that “content for the TRA is obtained from relatively brief interviews with members of the target population, and the frequency with which different consequences are mentioned is the basis upon which items are selected. In contrast, the content of MAU theory is based on extensive interviews, and an attempt is made to represent fairly all the behavioral consequences mentioned” (Carter, 1990, p. 81). Carter (1990) also reports “the focus of prediction in the Theory of Reasoned Action is the group, instruments can be self-administered, and the theory is best suited for survey research applications. In contrast, the focus of MAU prediction is on the individual, and it is ideally suited as a decision aid to help individuals resolve complex health decisions. MAU models, however, should be administered by an interviewer...Both of these theoretical approaches are relatively complicated...” (p. 83).

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Multiattribute Utility Theory is a decisional model that can predict behavioral intention, and salient misconceptions. The quality of the decision process can thus be

improved with appropriate interventions (e.g., decision aids) (Rimer, 1990). Information collected from the utilization of the MAU Theory model can be used to construct practical decision aids and these decision aids can be developed to change target behaviors (e.g., decision balance sheets or information handouts) (Carter, 1990; Glanz, Lewis, & Rimer, 1990).

As previously stated, Multiattribute Utility Theory models can be used to influence personal health decisions. However, like the Theory of Reasoned action, it optimally provides direction for intervention when it is supplemented by other theories (Glanz, Lewis, & Rimer, 1990).

Protection Motivation Theory

Protection Motivation Theory (PMT) was originally formulated by Rogers in 1975. It is a model of cognitive processing in response to threat, like the Health Belief Model (Bennett, Rowe, & Katz, 1998; Rimer, 1990). PMT is derived from Expectancy-Value Theory, a theory that stipulates that a behavior is based on expectancies regarding the consequences of the behavior and the value of the consequences (Milne & Orbell, 2000). PMT adds recognition of the emotional fear-arousal elements involved with health-related behavior and attitudes. According to Protection Motivation Theory, “the most persuasive communications are those that arouse fear, while enhancing perceptions of the severity of an event, the likelihood of exposure to that event, and the efficacy of responses to that threat” (Rosenstock, 1990, p. 45).

Maddux and Rogers (1983) report on a revision of the Protection Motivation Theory of fear appeals by combining the PMT with Self-Efficacy Theory and present this

combined model as a potential model of attitude change. The cognitive processes of threat appraisal (which includes perceived vulnerability, severity, and fear) and coping appraisal (which involves response efficacy) were put forth as the original determinants of an individual's motivation to take self-protective action (i.e., the intention to perform the behavior). Rogers later expanded the PMT to include perceived self-efficacy and perceived response-cost to coping appraisal. Other cognitive mediating processes which were added to the model were maladaptive coping responses (e.g., avoidance, denial, fatalism, wishful thinking, and hopelessness). In summary, the decision to engage in a protective behavior is based on beliefs about the severity of the disease, the likelihood of its occurrence, the perception about whether the behavior will reduce the threat, whether the psychological costs are minimal, and whether the individual feels competent to perform the behavior (Milne & Orbell, 2000).

The motivation to act is derived from threat appraisal, whereas the direction for how to act is derived from coping appraisal (Rimer, 1990). Protection Motivation Theory states that both internal and external rewards will increase the likelihood of action. Coping refers to judgments about response efficacy, a preventive response that will avert the perceived threat (Rimer, 1990). The following factors are posited to maximize Protection Motivation: severe threat, feelings of vulnerability, the belief that the threat can be adaptively (effectively) responded to, confidence regarding the ability to respond, small rewards for maladaptive behavior, and small costs for an adaptive response (Rimer, 1990).

The intervention application of PMT is similar to that of the HBM (e.g., educational programs, self-management, etc.) (Bennett, Rowe, & Katz, 1998; Rimer,

1990). Rosenstock (1990) states that incorporating the fear variable gives added dimension to the theory in that it proposes a method for fostering cognitive and behavioral change. Patients must believe that their health is in danger, that following the recommended action will reduce the threat, and that they are capable of carrying out the recommended responses. Important implications of utilizing fear-induced communications are that a variety of defensive reactions can be triggered which, in turn, will interfere with adherence. Patients may be motivated to minimize, ignore, or deny the importance of the threat if fear arousal communications are not fully relieved by reassurances (Meichenbaum & Turk, 1987). Rosenstock (1990) highlights the general acceptance of the joint role of fear and reassurance in persuasive communications. Another issue that Meichenbaum and Turk (1987) point out is that attitudinal changes can diminish along with the dissipation of fear unless other strategies are utilized (e.g., tying the fear to an existing attitude or value which would be jeopardized).

Milne and Orbell (2000) conducted the first among only a few longitudinal studies of the full PMT model. This theory is tested to determine its predictive value regarding breast self-examination. The study concluded that PMT variables alone were not sufficient to account for one's motivation to perform breast self-examination. Milne and Orbell (2000) found support for the view that self-efficacy seems to be a major predictor of health-related behavior. Another important factor in predicting future behavior was previous behavior. In fact, in this particular study, it was the single best predictor of intentions to perform the targeted behavior during the following month.

Social Learning Theory (SLT)/Social Cognitive Theory and the Self Efficacy Model

In 1986, Bandura designated his model, formerly known as Social Learning Theory, to be Social Cognitive Theory. Bandura wanted to distinguish his theoretical approach from other social learning theories and to acknowledge “the social origins of much human thought and action” and “the influential causal contribution of thought processes to human motivation, affect, and action” (Bandura, 1986, p.xii). Social Cognitive Theory is an interactional model of causation based on reciprocal determinism. Environmental events, personal factors, and behavior all operate as interacting determinants of each other (Bandura, 1986). Glanz, Lewis, & Rimer (1990) contend that Bandura’s Social Learning Theory represents one of the most formally developed theories of behavior today. In addition to identifying the determinant (or explanatory) variables and their interrelationships, the theory also includes methods for inducing changes in the determinant variables (i.e., guidelines for goal-setting and treatment interventions).

In proposing a model of human nature and causality, Bandura (1986, 2000) introduces determinants and mechanisms of human functioning (i.e., motivation, affect, and behavior) that include; efficacy beliefs, outcome expectations, cognized goals (distal and proximal), and perceived barriers or impediments. Outcome expectations can take the form of positive or negative anticipated outcomes and are applied to three classes of outcomes: physical effects, social reactions, and self-evaluative reactions or effects regarding one’s behavior. Perceived barriers can be personal (involving self-efficacy assessment) and situational or rooted in health systems (i.e., availability of health

resources). These determinants and mechanisms can be applied to various facets of human functioning, including health behavior.

Social Cognitive Theory states that human functioning and accomplishment are explained by a model of “triadic reciprocity” (or reciprocal determinism) in which behavior (action), cognitive and other personal factors (including endowed potentialities, acquired competencies, reflective thought, and a high level of self-initiative), and environmental events (external circumstances) all operate as interacting determinants of each other, all act together to produce changes. These influences operate in bi-directional processes (Bandura, 1986).

From a social cognitive perspective, humans are endowed with basic capabilities that comprise their personal resources and it is these resources that contribute to an individual’s sense of personal agency. Personal agency, in this context, refers to a person’s sense of their ability to act, their power, and their means. Bandura (1986) identifies the basic capabilities:

1. Symbolizing capability – internal models that serve as guides for future action.
2. Forethought capability – anticipation of consequences, goal-setting, planning (cognitive representation of future events).
3. Vicarious capability – learning by observation of others.
4. Self-regulatory capability – the exercise of self-influence whereby behavior is partly motivated by internal standards and self-evaluative reactions to one’s own actions.

5. Self-reflective capability – reflective self-consciousness whereby one can analyze one's experience and think about one's own thought processes (i.e., metacognition).

Bandura (1986) states that a primary influence upon thought patterns, behavior, and emotional arousal is people's self-percepts of efficacy. Self-efficacy beliefs operate in concert with cognized goals, outcome expectations, and perceived environmental impediments and facilitators in the regulation of behavior (Bandura, 2000). Bandura cites an abundance of research that indicates that perceived self-efficacy mediates health behavior. Unless people believe that they can master and adhere to health-promoting habits, they are unlikely to devote the effort necessary to succeed (Bandura, 1986, 2000). Perceived self-efficacy is people's belief in their coping capabilities, their belief that they can succeed at something they want to do, their judgments of their ability to organize and execute courses of action required to attain mastery or to perform designated actions or tasks (Bandura, 1986, 2000; Sarafino, 1998).

Bandura (1986, 2000) conceptualizes self-efficacy as deriving from diverse sources of information. There are four principal sources of information that form the expectations of personal efficacy: mastery experiences or performance accomplishments, vicarious experience, social or verbal persuasion, and physiological states/emotional arousal. Additionally, some of the modes of induction or treatment that contribute to each information source are included. Performance accomplishments (enactment efficacy information) involve treatment modalities such as; participant modeling, performance desensitization, performance exposure, and self-instructed performance. Vicarious experience (vicarious efficacy information) is comprised of live modeling,

symbolic modeling, and former patients who exemplify positive traits. Verbal persuasion (persuasive efficacy information) involves informing the patient about their capabilities, suggestion, exhortation, self-instruction, and interpretive treatments. Physiological states/emotional arousal (physiological efficacy information) utilizes techniques such as; attribution, relaxation, biofeedback, symbolic desensitization, symbolic exposure, and explanatory consultation regarding physiology. In summary, people acquire their sense of self-efficacy by way of their own successes and failures, observation of others' experiences, and assessments of their abilities that other people communicate (Sarafino, 1998).

Bandura (1977) postulates that although cognitive processes mediate change, "cognitive events are induced and altered most readily by experience of mastery arising from effective performance" (p. 191). Increasing self-efficacy requires the development of competencies and expectations of personal effectiveness. It is an individual's expectations of personal efficacy that determine whether coping behavior will be initiated and the amount and duration of effort (Bandura, 1977).

Bandura (2000) reports that efficacy beliefs are consistently predictive of intention and behavior. He cites multiple single and meta-analytic studies regarding the role of self-efficacy across different types of health functioning and outcomes. Beliefs of personal efficacy determine, in part, how the subfunctions of a self-regulatory system operate. Bandura refers to this cognitive factor as self-regulatory efficacy and perceived self-regulatory efficacy leads to positive outcome expectations that, in turn, provide behavioral incentives.

When applied to health practice, Social Cognitive Theory addresses aversive motivators of change such as tension, discomfort and pain and also the fact that the change process itself can be an aversive event (in terms of creating temporary discomfort). Bandura (1986, 2000) explains that in order to engage in the change process, people require both the reasons (motivation) and the means (skills) to do so. They require skills to effectively self-regulate their behavior, such as self-monitoring, self-observation, judgmental processing, self-reaction, setting of proximal goals, and arranging incentives. Bandura (2000) contends that the SCT variables that form the prediction model are the same ones that inform the intervention model. Perry, Baranowski, and Parcel (1990) review specific behavioral management strategies which increase self-efficacy such as; repetition, small steps (i.e., goals set in increments that approximate the desired behavior) and the use of both observational and enactive learning techniques. Emotional arousal can be managed through the use of cognitive techniques such as problem restructuring, or stress management techniques (progressive relaxation or exercise) or the development of problem-solving skills. “People effect self-directed change when they understand how personal habits contribute to their well-being, are taught how to modify them, and have the self-belief in their capabilities to mobilize the necessary effort. However, personal change occurs within a network of social influences” (Bandura, 1986, p. 179).

Attribution Theory

Attribution Theory (AT), as developed by Weiner in 1986, is a more general psychological model than the health psychology models (i.e., the Health Belief Model, the Protection Motivation Theory, and the Transtheoretical Model (TM)), which focus

explicitly on health behaviors. AT and other more general models that have been applied to health behaviors include Social Learning Theory (SLT), the Theory of Reasoned Action (TRA), the Theory of Planned Behavior (TPB) (the revised version of TRA), and the Self-Perception Theory of Bem. These are explanatory models and theories, but some models, such as the TM, the SLT, and the AT, can also be considered as change models, as they do focus on behavior change (DeVries, Mudde, & Dijkstra, 2000).

People strive to make sense of things. They utilize a process that develops personal cognitive explanations. Attribution Theory (AT) describes the processes by which individuals explain events and respond to these causal explanations/cognitions (Glanz, Lewis, & Rimer, 1990; Lewis & Daltroy, 1990). AT is a theory of motivation, and is a cognitive approach to how motivation is perceived and how motivation, in turn, influences interpersonal behavior (Bayer Institute for Health Care Communication, 1996). AT assumes that people are motivated to explain, interpret, and understand their causal environments (e.g., by making attributions of blame, responsibility and achievement) (Lewis & Daltroy, 1990). People, in addition to making causal attributions, give reasons for explanations “by describing, excusing, or justifying” (Lewis & Daltroy, 1990, p. 94). In addition, the relationship between thoughts (attributions) and actions (e.g., health behaviors) is systematic (Bayer Institute for Health Care Communication, 1996).

Weiner classified the content of attributions along four broad dimensions with each dimension being a bipolar construct: locus of causation (source of cause as internal or external to the individual); controllability (causes are believed to be controllable or uncontrollable); stability (location of causes are on a continuum of stable to unstable);

and globality (whether causes affect a wide variety or specific outcomes) (Lewis & Daltroy, 1990; Maltby, 1996; Wilson, Cruz, Marshall, & Rao, 1993).

The personal cognitive explanations can be applied to factors affecting health or illnesses. An individual's health-related behaviors are influenced by these cognitions (or explanations, or attributions). People's understanding of why any health-related event occurs can lead to decision-making. The way people adjust to chronic illness, for example, is affected by their attributions about disease causation and controllability. We assign causality to things based on both conscious and unconscious processes (Glanz, Lewis, & Rimer, 1990). Lewis and Daltroy (1990) find that people are motivated particularly to conduct attributional searches in "ambiguous, extraordinary, unpredictable, or uncontrollable situations...such situations include the diagnosis or exacerbation of chronic illness... or relief or cure of a symptom or illness" (p. 94).

According to Byrns (2000), attribution theory posits that there is a natural human tendency to explain adverse events and to attribute the events to either internal or external causes. Byrns' study of 292 garment workers suffering from occupational low back pain (LBP) found that the attribution theory is useful for both studying the phenomenon of LBP and in developing preventive interventions. The attribution model explained 20.7% of the variance in the study of LBP. The evidence/outcome data confirmed that attributing LBP to internal causes (e.g., knowledge regarding back safety) tended to increase the worker's perceived control and external attributions (e.g., low supervisor support or job task difficulty) were more likely to cause distress.

Regarding a person's exercise of health-enhancing behaviors, there are two general explanatory styles that are optimum. Stable, global, and internal causal

attributions should be reinforced for desirable outcomes or under conditions of success. Unstable, specific, uncontrollable, and external causes should be reinforced under conditions of failure (Lewis & Daltroy, 1990).

In treating patients, AT can be applied to health education in the following ways: development of therapeutic relationships; the development of correct attributions and alteration of incorrect attributions; altering the focus of attributions; attributing characteristics to the individual; and in the maintenance of perceived personal effectiveness (Lewis & Daltroy, 1990). There are certain attribution patterns that are maladaptive. For example, a fundamental attribution error is attributing behaviors to personal characteristics as opposed to situational causes or transient environmental influences. A specific instance would be attributing a lapse in behavior change to a personal weakness. Another example of a faulty attributional process is attributing a potentially dangerous symptom (e.g., chest pains) to something less significant (e.g., indigestion from something eaten). Symptom attribution can be a critical factor and can determine the action taken (Rimer, 1990).

It is clear that attributions affect health outcomes and health practitioners can utilize AT to assess and improve clients' attributional processes (Rimer, 1990). Rimer (1990) addresses that AT points to the importance of understanding patients' meanings and that "apparent lack of communication and even noncompliance may stem from divergent attributions by patients and physicians" (p. 147). Attributions of failure, the causes of illness, and side effects, all can be faulty attributions requiring correction. It is the assessment of these attributions that can guide the development of corrective interventions.

In expounding upon some of the limitations of AT, Lewis and Daltroy (1990) report that there is increasing evidence that some individuals do not engage in causal searches or attempt to generate attributions, while some generate multiple attributions (of varying types). Also, there may be both preliminary and final attributions. Some patients may prefer causal ambiguity to causal certainty under some circumstances. Rimer (1990) states that some patients prefer causal ambiguity about their diseases to full information, pointing to a possible convergence of attributional style and informational style. For example, a patient with an emergent symptom that may be indicative of a worsening of their illness may prefer not to pursue this with their physician. The patient then gives himself or herself the latitude to attribute the symptom to something less threatening.

Attributions exert a powerful influence on health behavior, but how and which attributes to manipulate to achieve the positive health outcome have yet to be determined. Lewis and Daltroy (1990) state that “the utility and impact of attributions may vary over time from onset of disease, across diseases, and by age, and educational level” (p. 108) and further, that “no reported experimental study has systematically manipulated the various dimensions or types of attributions” (p. 109).

In a study reported by Gollwitzer and Oettingen (2000), outpatient children, suffering from varied chronic illnesses, were asked to create written scenarios (fantasies) regarding outcome expectations and then rated the positivity of their images. The Children’s Attributional Style Questionnaire was used to assess the extent to which hypothetical positive events are perceived as stable, global, and internal, when compared to negative events. “An optimistic explanatory style conveys a person’s sense that she

will eventually be able to deal with the situation at hand and thus indicates positive expectations” (Gollwitzer & Oettingen, 2000, pp. 248-9).

The disease activity for the chronic illnesses was assessed several months later and the result was that positive fantasies in response to health scenarios hampered recovery rate or worsened disease activity and positive expectations led to improvement in the health condition. Gollwitzer and Oettingen (2000) found, in other studies that they conducted (e.g., in the areas of weight loss and in professional success) that the same findings pattern emerged. In summary, there is empirical evidence demonstrating that positive fantasies about the future are maladaptive and contraindicated in terms of health promotion, disease prevention, and recovery from chronic and acute illness. High expectations of success, however, are predictive of success (regarding promotion, prevention, and recovery). Implications for treatment are that “the health psychologist must encourage the transformation of positive fantasies about the future into binding health goals” (Gollwitzer & Oettingen, 2000, p. 250).

The first step in facilitating goal emergence is strengthening expectations of success (optimistic expectations). Additionally, positive fantasies should be contrasted with negative realities. This contrasting procedure helps discourage people from dreaming about fantasies or ruminating about negative realities. This mental contrasting procedure is a self-regulatory tool that is postulated to lead to the induction of stable goals (Gollwitzer & Oettingen, 2000).

As Gollwitzer and Oettingen (2000) point out, behavior is not determined by motivational variables (expectations, values) alone, but also involves volitional factors such as self-regulatory strategies (implemental mindsets and implementation intentions)

which, in turn, lead to goal pursuit. The mental contrasting procedure (involving positive fantasies contrasted with negative aspects of the present reality) is a self-regulatory tool that can help people set stable health goals.

Rimer (1990) concludes that Attribution Theory should not stand alone as the only model to understand and influence health-related behavior. Although it aids in the understanding of health behavior, it doesn't necessarily direct how to bring about change. It can, as previously stated, be utilized by health practitioners to assess and improve clients' attributional processes.

Transtheoretical Theory

Prochaska, DiClemente, and Norcross (1992) developed a transtheoretical model (TM) of change in relation to how people change addictive behaviors. The key transtheoretical constructs of stages and processes of change are applicable to a variety of behaviors. The transtheoretical theory asserts that multiple processes of change are matched to the individual's particular stage of readiness to change (i.e., interventions are "stage-based" or timed and sequenced). The stages and processes are two interrelated dimensions of the change process. Essentially, modification of behaviors involves progression through five different motivational stages: precontemplation, contemplation, preparation, action, and maintenance.

The change processes used to progress through the stages are represented by 10 processes which received the most theoretical and empirical support in terms of frequency of utilization in altering diverse problem behaviors: consciousness raising, self-reevaluation, self-liberation, counterconditioning, stimulus control, reinforcement management, helping relationships, dramatic relief, environmental reevaluation, and

social liberation. DeVries, Mudde, and Dijkstra (2000) state that further research is needed to determine whether all 10 of the processes of change can be statistically verified (i.e., whether they are all key factors in the explanation of health behaviors). The transtheoretical model integrates the identified stages with the processes. The reasons why people change health behaviors form another set of dependent variables which mediate stage movement: decisional balance (measures of pros and cons), self-efficacy (situational confidence), and temptation (DeVries, Mudde, & Dijkstra, 2000; Courneya, Nigg, & Estabrooks, 2000).

The levels of change comprise the third dimension of the transtheoretical model of integrative therapy. Combined with the stages of change (when people change) and the processes of change (how people change), the levels of change relate to what people change. The levels were originally developed clinically and were then “enhanced empirically.” The identified levels are: situational difficulties, maladaptive cognitions, interpersonal conflicts, family systems conflicts, and intrapersonal or intrapsychic conflicts (Bayer Institute for Health Care Communication, 1996).

Precontemplation is the stage at which there is no intention on the part of the individual to change behavior in the foreseeable future. He or she does not recognize the problem(s). Contemplation is the stage in which awareness of the problem(s) exists, and the individual is thinking seriously about solutions or action related to the problem, but is not yet committed to take action. Preparation combines intention and behavioral criteria. One month is given as the point within which “effective” action is intended. The action stage involves modification of behavior, experiences, or environment, to overcome the problems. It is the initiation of specific change. Maintenance involves the stabilization

of behavior change and the prevention or avoidance of relapse. In later work, the termination stage is included in the model. This is when the former problem does not present any more temptation or threat. It is when relapse is no longer a risk and no further change is necessary (Abraham, Norman, & Conner, 2000; Bayer Institute for Health Care Communication, 1996; Prochaska, DiClemente, & Norcross, 1992; Rimer, 1990).

In a more recent re-analysis of Prochaska and DiClemente's Stages of Change Theory, Freeman and Dolan (2001) suggest an expansion/revision of the model that provides increased specificity. The five stages are expanded to ten stages. Noncontemplation, anticontemplation, action planning, prelapse, lapse, and relapse are added to the original model. The original preparation stage is omitted and replaced with the action planning stage. Redirection is introduced as a critical intervention process to be utilized during the prelapse, lapse, and relapse stages. This revised model is based on clinical experience. Future empirical research is needed to validate the model.

The model is spiral in nature in that people frequently relapse and recycle through the stages. Knowledge as to when shifts in attitudes, intentions, and behaviors occur can provide both proscriptive and prescriptive information about which interventions are best suited and when these interventions would most likely be effective (Prochaska, DiClemente, & Norcross, 1992). Interventions are "stage-based". For example, the types of processes most relevant to the action, maintenance, and termination stages are: reward, countering, environmental control, helping relationships, and commitment. Experiential processes (such as, consciousness-raising and self-reevaluation) are more geared to pre-action stages. Behavioral processes (such as, countering, helping

relationships, commitment, and rewards) are more suited to action and post-action stages (Bayer Institute for Health Care Communication, 1996). “Verbal processes prepare a person for action, whereas behavioral processes become more important once action is initiated” (Rimer, 1990, p. 152).

The processes of change address how the stages or shifts occur. “Change processes are covert and overt activities and experiences that individuals engage in when they attempt to modify problem behaviors” (Prochaska, DiClemente, & Norcross, 1992, p. 1107). The processes were derived from principal components analysis of the leading systems of psychotherapy. They are presented as “potent predictors of change for both therapy changers and self-changers” (Prochaska, DiClemente, & Norcross, 1992, p. 1107).

Bandura (2000) and Sutton (2000) find little evidence to support the transtheoretical model, either as a stage model of distinct phases of preparedness for action, or as a model for stage-specific interventions. Sutton (2000) criticizes the TM by contending that the duration of the stages are arbitrary, the definition of the stages vary, and the stages are not necessarily discrete or qualitatively distinct.

Most TM studies have applied the model to the target behavior of smoking cessation. Sutton (2000) reviewed the empirical evidence from recent studies on smoking cessation and the results led him to question the validity and utility of the model. Major problems with the TM that Sutton identifies are; (1) lack of standardization of measures (i.e., arbitrary time periods); (2) the measures are not predictive for measuring progress towards smoking cessation; (3) stage-matched interventions cannot be developed because the causal relationships among the constructs are not clearly specified;

(4) the majority of studies are cross-sectional in design and can only predict discontinuity patterns among people in different stages; (5) confusion among researchers regarding the nature of stage models and testing criteria, and finally; (6) existing evidence (from prospective and experimental studies) regarding the TM and its application to smoking cessation is “insufficient and equivocal” (p. 222).

Though the stages of change model was originally developed and applied to smoking cessation behavior, it has subsequently been applied to a wide variety of health behaviors. Courneya, Nigg, and Estabrooks (2000) report that Prochaska’s stages of change model has been the most popular and most validated model applied to the exercise domain. Courneya et al. (2000) found approximately 40 studies examining TM in the exercise domain (with cross-sectional, longitudinal, and experimental designs). The TM was supported across a wide range of populations (across worksite, age, geography, medical condition, and nationality). Empirical evidence supports that the first five stages of the stages of change model are applicable to exercise behavior and that the TM constructs can discriminate across the stages of change. The final stage of change, termination, has not yet been proven relevant for exercise behavior change. (The termination stage is when there is no risk at all of returning to the previous unhealthy behavior, no temptation to do so exists, and the individual has 100% self-efficacy in previously tempting situations).

The Theory of Planned Behavior (TPB) has been utilized in explaining why stage change occurs in relation to exercise behavior. Intention is determined by attitude, subjective norm, and perceived behavioral control (i.e., perceived ease or difficulty of performing the behavior). Courneya et al. (2000) report that the direct effects of attitude

and perceived behavioral control on intention have been well documented and that the direct effects of subjective norm on intention is considerably less consistent. They point to a large body of literature which validates the TPB in predicting exercise behavior. They then relate TPB to TM in terms of research findings which suggest that the cognitive construct of attitude should be targeted for early to middle stage transitions (i.e., from precontemplation to action). Additionally, perceived behavioral control is the appropriate target for middle to later stage transitions (i.e., from contemplation to maintenance).

Although the transtheoretical model and the stages of change model can be criticized for several reasons, including its omission of many other important determinants of health behaviors (especially, psychosocial), this model contributes greatly to the conceptualization of health behaviors. The transtheoretical model of change contributes critical assessment variables related to what people are doing (processes) and when they are doing it (stages). It is the timing (stages) and the mechanisms (processes) of behavioral dynamics that can be regarded as variables applicable to health behavior and nonadherence to medical regimens. In evaluating an individual's adherence, items that identify which stage and which strategies/interventions the individual is utilizing, can provide critical information about the issues contributing to, or detracting from, adherence. The model recognizes the need for interventions that include a range of options and it provides "a larger structure within which other intrapersonal and interpersonal theories of behavior can be integrated" (Rimer, 1990,

p. 153). It “enables an intervention to match useful strategies with important characteristics of people at each stage to help them advance to the next stage” (Sarafino, 1998, p. 178).

The Biomedical Approach

The medical model is an approach to health and disease with a long and lasting relevance to any conceptualization of health and health behavior. It is the oldest of the major models that attempt to understand compliance problems. It “focuses on the more technical or mechanistic problems and potential solutions. It emphasizes aspects of the treatment regimen and ignores more subtle interpersonal determinants of behavior” (Blackwell, 1996, p. 145). If necessary, the physician, for example, can simplify treatment regimens, change medications, or alter dosage, in order to improve long-term compliance and therapeutic outcomes (Bayer Institute for Health Care Communication, 1996).

The reviewed literature of research-based findings regarding the utility and application of the biomedical approach to health promotion points to qualitative limitations of this approach in the development of interventions to modify health-related behavior. Reddy, Meyer-Weitz, van den Borne, Kok, and Weijts (1998) undertook a qualitative study to assess health education practice in sexually transmitted infection (STI) clinics in South Africa. The goal was to develop improved health education. It was a small study involving interviews with 18 health care workers.

The attitudes, skills, and knowledge of the health care workers and the resources, policies, and protocols of the health care organization must be assessed in developing effective interventions in the area of health education. The first target of intervention

suggested by the data derived from this study should be the health care workers and the organization. The implication of this study in relation to the traditional biomedical approach is that the pathology does not always lie within the identified patient(s). There are additional areas of problem/deficiency, just as there are sources of strength, both within and external to, the identified patient(s).

Li and Rosenblood (1994), in a substantial study exploring differential alcohol consumption patterns among ethnic groups (Chinese and Caucasian), found that cultural norms rather than physical symptoms were a significant predictor of alcohol consumption patterns. Again, the issue in question (in this case, alcohol consumption) can best be understood in terms of a social/psychological framework as opposed to a biomedical approach.

Roisin (1987) completed a study that demonstrates how theoretical/scientific, research-based models, when applied to the diagnosis of individual patients in medical practice, can cause errors and problems. Roisin argues that the biomedical approach to diagnosis sometimes creates a situation where both the doctor and the patient commit to a model of organic pathology which dismisses other etiology; and which may not address other critical issues, such as the patient's ability to cope with the illness.

The field of medicine has a tradition of examining the organism in terms of illness and disease states, whether it is at the micro (e.g., viral) or the macro (the human body) level. Questions about the manifest signs and symptoms and the internal experience and behavior of "the organism" contribute the bulk of the information utilized for the conceptualization of the pathology and the subsequent diagnosis and treatment. The biomedical approach undeniably provides an integral part of a more holistic construct of

an individual. The signs and symptoms need to be included with that which is lacking in this approach, i.e., contextual information about the individual, the concept being that an individual is so much more than an isolated organism to be viewed on a glass slide under a microscope.

The expansion from organism to individual person/personality takes into account interpersonal factors, environmental elements, and psychological factors. This includes elements such as the relationship between the patient and the provider. The patient, in context, is no longer an inert, passive recipient subject to the various forces acting upon him/her, forces such as the medical authority, the disease, or the treatment regimen. A therapeutic alliance can now be a potent variable with many subtle factors intermingling in a myriad of ways to lead to a particular outcome. The process becomes as important as the content.

Although the medical model or medical approach is sufficient to remediate many of the health-related issues regarding compliance (e.g., side effects), many modern health care providers now factor in cognitions, beliefs, attitudes, environmental supports and barriers, the interaction and integration of the social, biological, and the psychological aspects of function into their conceptualizations. One is led to acknowledge the shortfalls of the biomedical approach and to recognize the need to opt for an extension of this model toward a biopsychosocial model of assessment and treatment. To overcome the shortfalls of the biomedical approach as the sole treatment intervention, Holt and LeCann (1984) recommend the use of a biopsychosocial integrative interview. The authors apply this as a psychotherapeutic approach to cases involving severely somatizing patients. It is

widely believed that this expansion of the biomedical approach represents a more effective intervention regardless of the presence of organicity.

Theory of Information Processing/Consumer Information Processing

The Theory of Information Processing (TIP) relates, in general, to the way in which people are thought to seek, use, and process information. Consumer Information Processing Theory (CIP) is part of the larger Theory of Information Processing (Glanz, Lewis, & Rimer, 1990). Most of the research findings regarding TIP and CIP are found in the area of business, marketing, and organizational development. It follows, though, that much of what has been learned can be applied to health-promotion interventions. The utilization of written and other material designed to influence attitudes, beliefs, and behaviors in the marketplace can be applied to health consumers. Rudd and Glanz (1990) report on ways in which information is related to consumer health behavior. Their first premise relates to the critical nature of information in making sound health-related decisions. It is a necessary, but not sufficient, variable in the health action equation.

When structuring information for processing, the principles of information processing, when thoughtfully applied, can make the difference between what is received, what is quickly forgotten, and what is stored in memory for retrieval. Information, when appropriately processed by a receiver, can influence behavior, can lead to health-related beliefs, decisions, and behaviors (Rimer, 1990).

Consumer Information Processing (CIP) Theory focuses on two characteristics of the consumer choice environment, the quantity and the quality of available information. These two characteristics determine the processability of any information for a consumer. Processability contributes to the decision-making process. The proposed elements which

make up consumer choice are; information processing capacity, motivation, attention and perception, information acquisition and evaluation, decision rules and processes, and consumption and learning. These elements interact in a continuous and reciprocal feedback loop. Bettman initially developed this conceptualization in 1979 (Rudd & Glanz, 1990).

“Information processing is an active process in which consumers generate cognitive responses to information from either internal or external sources” (Rudd and Glanz, 1990, p. 122). Many factors influence the quality of the information search, whether it is an internal search (from memory) or an external search (from the environment). Factors such as the degree of prior knowledge, the relative availability of information, the consumer’s internal cost-benefit analysis, the difficulty of the choice task, time pressure, information-processing ability, etc., all contribute to the information search and process.

Rimer (1990) reports that information is used to make choices and how this information is acquired and subsequently processed is based on principles such as; “Information presented first (primacy) or last (recency) is remembered best (Ley, 1979)” (p. 148) and “Consumers tend not to engage in extended information searches” (p. 149). The parsimony principle involves making decisions quickly after locating a satisfactory alternative, as opposed to utilizing an “optimizing” criterion whereby the information search continues until the best alternative is located. These principles can be applied to health-related decisions. Information processing and decision-making shortcuts can have negative consequences for a patient who employs heuristics that are not in keeping with a desirable health outcome (Rudd & Glanz, 1990).

CIP Theory, applied to health behavior, helps close the gap between individual characteristics (e.g., demographic factors such as education, income level, age, health status, motivation, and consumer information processing capacity) and decisions that directly affect behavior. The content of what goes into the decision-making process, the health information, is differentially acquired, processed and utilized, based on variables such as availability of product information, its perceived usefulness, its processability “within the time, energy, and comprehension level of the consumer” (Rudd & Glanz, 1990, p. 125), if it is easy to acquire in terms of clarity, timeliness, and if it is situationally strategic (content and format issues). The “amount, type, and channels through which health information is provided” all affect the quality of consumer decision -making (Rudd & Glanz, 1990, p. 126).

As previously stated, both TIP, and its derivative, CIP, relate to how (i.e., under what conditions and by what mechanisms) one assimilates, processes, and utilizes information. Variables derived from TIP/CIP have been proven to enhance communication and subsequent response to communication. Kasali (1999) researched communication strategies utilized in marketing (i.e., changing consumers’ attitudes towards products) and found that the effectiveness of communication depends on multiple variables: information source credibility, strategy (storage, retrieval, ‘do-nothing’), perceived importance of the topic, subjects’ focus of attention, the culture of the subjects, subjects’ perceived similarity to the information source, content of the messages, and processing components used to interpret information. A study by Leong, Ang, and Tham (1996) finds that factors that most affect recall of specific information (e.g., written material) are: the level of meaning (high versus low), exposure, level of

processing (semantic versus sensorial), repetition, and type (pictures combined with words).

As is the case with many other major models/theories of health-related behavior, the use of concepts related to CIP Theory are not intended to stand alone as health education and promotion strategies (Rudd & Glanz, 1990). However, health information materials constructed according to principles based on CIP Theory can enhance understanding and recall. A more comprehensive framework would be optimal in viewing the formation, use, and channeling of information within different systems and contexts that, in turn, produce different outcomes. This theory, as previously stated, no matter how complex and comprehensive, must be integrated with other theories such as Social Learning Theory, Transtheoretical Theory, and the Health Belief Model, in order to account for the broad spectrum of variables related to health beliefs, attitudes, and behaviors.

Summary

In closing, the findings of a study undertaken by Halloran (1992/1993) conclude that the issue of compliance is a massive problem and that no solutions have been found. In terms of that particular study (with a sample of 40 volunteer patients in a cardiac rehabilitation program), no one variable studied (i.e., health beliefs, adaptive flexibility, congruence match and amount of knowledge gained) proved to be a strong predictor or to have strong correlation to subsequent compliance. Halloran (1992/1993) concluded that compliance to health care regimen is a complex, multifaceted problem and that patient needs must be evaluated on an individual basis.

A variety of health psychology models can be utilized to understand motivational factors involved in health behaviors (e.g., The Health Belief Model, the Protection Motivation Theory, and the Transtheoretical Model). Bandura's Social Learning Theory, Attribution Theory, the Theory of Reasoned Action, and its revised version, the Theory of Planned Behavior, are more general psychological models that can also be applied to health behaviors. The various models, and combinations and permutations of these models, can be utilized for different purposes, such as; explanatory purposes (i.e., analyzing motives for behavior), planning interventions, and change (e.g., attitudes and behavior change) (DeVries, Mudde, & Dijkstra, 2000).

The evaluation/assessment process that was utilized in the case study of an individual with the problem of nonadherence to her medical regimen (i.e., lifestyle changes for the treatment of essential hypertension) involved both a psychosocial intake evaluation (a semi-structured clinical interview) and the administration of an original health profile instrument. This instrument, the Health Behavior Profiling Questionnaire (HBPQ), was developed, not to predict health behavior, but rather to produce a profile of the individual patient that would categorize and explain the factors/determinants of her nonadherence, a profile that would directly guide the development and implementation of individualized treatment goals and interventions.

The relationship of the theoretical, empirically-based models reviewed in this chapter and the HBPQ is most clear in reviewing the HBPQ as presented in Appendix C. The questions are put into five categories: patient characteristics, health status, treatment regimen, patient-provider interaction, and environment. These five dimensions of health-related characteristics, beliefs, and behaviors, were derived from the

conceptualizations of Haynes (1979) and Meichenbaum and Turk (1987). The hypothesized factors that the questions address are indicated in small print next to the questions (with the exception of those questions where the factor is assumed to be self-evident).

“Do you have the time available to obtain the treatment your HCP has recommended?” and “Do you have any problems with transportation which may affect your ability to get treatment?” are both examples of questions about barriers or impediments to compliance. Barriers and impediments are notable determinants of health behavior that are predominant in the Health Belief Model and other explanatory/change models (e.g., Social Cognitive Theory). “Are you confident that you can follow the directions given by your HCP?” is an example of the self-efficacy factor so predominant in Social Cognitive Theory, and later incorporated as a determinant in the Health Belief Model and the Theory of Planned Behavior. There are multiple questions related to self-efficacy and perceived behavioral control throughout the HBPQ.

Questions regarding perceived severity, perceived vulnerability, cost versus benefit, social support, environmental resources, perceived threat, outcome expectancies, dispositional/characterological factors, medical factors (e.g., side effects), past behavior (e.g., adherence history), knowledge and skills, motivation, incentive, intention, and fears, all were incorporated into the HBPQ. These factors were culled from the empirically-based theories/models reviewed.

The intent of the HBPQ was to present the patient/respondent with as many relevant options as was conceivable in terms of providing her and her health care providers with a broad range of factors affecting her compliance with her health care

regimen. The patient, in completing the questionnaire, identified and then subjectively weighted (in a follow-up interview) these factors. This author, in the role of the patient's therapist, was able to utilize this data to inform the conceptualization and the development of the treatment plan.

CHAPTER 6

EMPIRICAL STUDY PROPOSAL

Introduction

This chapter contains a complete description of the construct in question, the instrument to measure it (the HB PQ), a copy of the instrument (see Appendix C and Appendix D) and a proposal for validating the instrument. The hypothesis that guides the empirical portion of this dissertation is that the belief system, the issues, and the dysfunctional thoughts associated with nonadherence to medical treatment regimens must be identified and understood prior to amending them or to taking any corrective action. In order to facilitate the formulation, conceptualization, and the subsequent remedial interventions, appropriate assessment methodology must be utilized. The proposed study involves the development and testing of a self-administered instrument for assessing nonadherence to medical advice. To date, there is no comprehensive instrument comparably designed to assess the multitude of possible causes/categories that contribute to nonadherence.

The definition of compliance that most reflects the author's philosophy in the development of the HB PQ is that compliance is the extent to which a patient's behavior coincides with medical advice (Haynes, 1979; Kjellgren, Ahlner & Saljo, 1995; Sung et al., 1998). The implication of this definition is that compliance is not an absolute, whereby a patient either does or does not totally conform to medical instruction, but rather, the behavior related to medical regimens exists on a continuum. This is one reason why the assessment process regarding health-related behavior is not so amenable

to simple instruments. Another reason is the multiplicity of variables/factors that potentially affect motivation, intention, behavior and outcome.

In addition to reviewing the currently available methods and instruments for assessing a patient who is nonadherent to medical treatment, the proposed study aims to accomplish two main goals: to develop a self-report questionnaire (Health Behavior Profiling Questionnaire) and to test the psychometric properties of this new instrument with a group of medical patients.

It is expected that the information gained from a comprehensive assessment process will be clear and concise enough to allow the clinician to develop effective, targeted intervention strategies and techniques. The desired outcome of the entire assessment process is that it will ultimately facilitate the development of a patient profile that can be utilized by the patient, the clinician, and the referring primary care physician in addressing nonadherence issues. The proposed instrument is designed to be an integral part of the assessment process.

The HBPQ includes standard demographic data with the inclusion of inquiry as to primary medical diagnosis and date of first diagnosis (regarding the chronic illness being addressed for compliance) in addition to 277 questions in a closed-ended, dichotomous yes/no format. The questions were derived from a variety of sources: the empirically tested and validated (to various extents) theories and models reviewed in Chapter 5 (Literature Review), literature reflecting expert opinion in the area of health psychology and medicine (e.g., Bayer Institute for Health Care Communication, 1996; Haynes, 1979; Meichenbaum & Turk, 1987), clinical experience, and an extensive review of the literature pertaining to a cross-section of chronic diseases and compliance factors related

to these illnesses. The reviewed studies that were examined in this last category (i.e., questions derived from atheoretical research regarding compliance and chronic illnesses) revealed that health behaviors vary depending upon personal characteristics, medical treatment regimen, environment, patient-provider factors, health status, and the specific illness in question. Most of these factors have also been accounted for in the theoretical constructs reviewed in Chapter 5.

Examples of factors derived from the literature on chronic diseases and compliance will be cited. For example, Satinsky (1994) found that the complexity of the regimen required for the treatment of diabetes is a key factor leading to noncompliance.

Pineiro et al. (1997) completed a study of 200 hypertensive patients in order to determine the amount of noncompliance with medical treatment for the disease and its causes, and to describe a profile of noncompliant patients. Lack of information and forgetfulness were found to be the most common causes of noncompliance in this sample.

Sung et al. (1998) undertook a retrospective cohort study of 772 patients on antihyperlipidemic medications with the intention of identifying factors that influence medication compliance. Correlation between specific characteristics and compliance was estimated by logistic regressions. The variables found to have the most influence on compliance were; female gender, baseline compliance, perceived health status, comorbidity, and number of daily doses.

Tufts University Health & Nutrition Letter (1998) reports on research findings conducted at Harvard Medical School in a study of 7,000 patients suffering from high cholesterol (all subjects older than 65 years). They found that the patients did not fill their prescriptions for almost 5 months out of the year. The researchers generalized the

applicability of these findings to people of all age groups and to those with other chronic conditions taking other drugs, especially for people with illnesses that produce no symptoms (e.g., high blood pressure or glaucoma). The underlying issue is that the individual will not feel better from taking the drug and may feel worse if there are side effects. Response to these issues, according to the author of the study (J. Avorn), can be addressed by insuring that there is not a mutual lack of communication between doctor and patient. In other words, doctors should provide explanations about why the drugs are prescribed, the expected results, and anticipated side effects and patients should provide the physician with feedback (e.g., regarding problems with understanding instructions, side effects, or costs).

Bame, Peterson, and Wray (1993) conducted a large-scale study of chronic, outpatient hemodialysis patients (N = 1,230 patients). The authors investigated the prevalence and the associated demographic characteristics of noncompliance as related to the various aspects of the treatment regimen for hemodialysis patients (i.e., protein and potassium dietary restrictions, medication, and fluid restrictions). In general, age (i.e., younger patients) was found to be most related noncompliance. Other demographic characteristics (e.g., marital status, income, race, and gender) varied according to the particular aspect of the treatment regimen. This study highlights the relevance of demographic information in identifying subgroups of patients at high risk for noncompliance. McLane, Zyzanski and Flocke (1995) have also found, in a much smaller study (N = 62) of elderly hypertensive patients, that age was a factor in compliance (i.e., the elderly had more adherence to therapeutic regimen than the younger patients). Age was also found to be a significant factor in noncompliance with medical

treatment among individuals with insulin-dependent diabetes mellitus (where late adolescence was associated with the most amount of time being noncompliant).

Compliance also seems to decrease with length of time since onset of the disease (Kovacs, Goldston, Obrosky & Iyengar, 1992; Pollock, Kovacs & Charron-Prochownik, 1995).

VanDulmen, Fennis and Bleijenberg (1998) present an overview of factors related to irritable bowel syndrome. The authors' conclusions are based on a combination of medical opinion and literature findings (empirical research and theory). Some of the identified factors were anxiety, disbelief regarding diagnostic findings, doctor reassurance and avoidance behavior (i.e., of activities).

Kjellgren, Ahlner and Saljo (1995) review literature from different disciplines and research in order to clarify the nature of compliance problems regarding prescribed antihypertensive medical treatment. There are varied sources of information regarding medication (e.g., nurses, pharmacists, relatives, friends, pamphlets and mass media) that can supplement the physician in providing information to foster the patient's understanding of the illness and the treatment. The authors stress that issues of collaboration with the patient can influence various aspects of treatment (from onset to follow-up) compliance. In their study of elderly hypertensive patients, McLane et al. (1995) sought to determine factors associated with medication noncompliance. In this study (a small-scale study utilizing home interviews), five significant items were best associated with noncompliance: demographics (type of insurance, with private showing higher noncompliance rates), quality of life (subjects reporting that high blood pressure does not affect their ability to do work or cleaning had higher noncompliance rates),

and the physician-patient relationship (less time spent with the physician per visit for high blood pressure correlated with higher noncompliance rates). Other associations with higher noncompliance rates included household composition (spouse or other), family history of hypertension (parent or sibling), and side effects of medication (yes).

Lisper, Isacson, Sjoden and Bingefors (1997) conducted a small-scale study (N = 21) utilizing semi-structured interviews of medicated hypertensive patients. The goal of the study was to determine the subjects' views and experience of information and communication concerning antihypertensive drugs. Inquiry was made in the form of an open-ended interview, a checklist, and follow-up questions that covered four domains: the informant, contents, presentation, and the timing of information. Patients preferred to receive information regarding medicines from their physicians (as opposed to pharmacy personnel) and further, that they desired information regarding possible side effects at the beginning of treatment. Another very important issue was the patients' concerns about the development of immunity or dependence upon the medication.

Mancia, Omboni and Grassi (1997) report that the complexity of the treatment is a large factor in compliance regarding long-term treatment of hypertension. (Complexity includes the number of drugs, dosing frequency, and the timing of assumption). Other factors affecting compliance with treatment were; side effects, patient characteristics (general status, gender, and smoking/alcohol consumption), health care system (cost of the drugs, number of medical visits, and waiting/traveling time), doctor's compliance (scientific background, information to patient, and perseverance), and nature of the disease.

Koocher, McGrath and Gudas (1990) combined clinical experience with a collection of more than 1,200 critical incidents (i.e., anecdotes regarding health behavior and outcome) from 223 cystic fibrosis patients and immediate family members in order to determine basic typologies of nonadherence in this population. In addition to variables associated with the patients' condition (e.g., perceived seriousness of the illness, negative effects of treatment termination, multiplicity of therapeutic goals, and conflicting medical opinion), the researchers found other factors that may play a critical role in determining the degree of treatment adherence. These factors were inadequate knowledge (i.e., lack of information or inadequate understanding of the information), psychological resistance (e.g., control struggles, cultural pressures, striving for normality, denial, avoidance, psychopathology, and chaotic home environment), and educated nonadherence (based on perceived hopelessness or cost versus benefit analysis). This particular study proved to cover a large number of the universe of variables associated with nonadherence in the literature.

Hailey, Willoughby, Butler and Miller (1998) studied 100 college women to determine the effects of a physician's communication style on the women's satisfaction level regarding treatment by the physician. Two styles of information presentation were studied: a paternalistic approach (i.e., more traditional and authoritarian) and a consumer-oriented approach (i.e., collaborative and information-sharing in nature). The findings suggested that women who were able to participate in decision-making with the physician were less likely to seek out another physician. The participants did not differ significantly on questions regarding confidence in the physician, degree of anxiety, likeability of the physician, or confidence in receiving the right treatment.

Purpose of Study

The purpose of the proposed empirical study is to develop a psychometrically valid and reliable instrument that identifies the factors associated with nonadherence to medical treatment regimens. It is hypothesized that this instrument, the HBPQ, when utilized in conjunction with a comprehensive psychosocial evaluation, will identify the factors (i.e., the beliefs, issues, and behaviors) that drive nonadherence behavior in patients. Subsequently, the data derived from the assessment can be used to inform the case conceptualization, the treatment planning and the interventions.

Research Hypotheses

1. The HBPQ will demonstrate construct validity as determined by factor analysis and the factor structure will consist of five factors: Patient Characteristics; Health Status; Treatment Regimen; Patient Provider Interaction; Environmental Factors.
2. The HBPQ will demonstrate test-retest reliability, as well as internal consistency reliability of at least .80. The total score and the subtest scores will demonstrate test-retest reliability of at least .80. The total scale and the subscales will demonstrate coefficient alpha internal consistency reliability of at least .80.
3. Patient self-ratings of adherence (5 = extremely adherent, 4 = a great deal adherent, 3 = a good deal adherent, 2 = somewhat adherent, 1 = not at all adherent) will correlate negatively and highly with total score and subtest scores on the HBPQ.

Methods

Subjects

The sample to be studied will be a group of 2,000 outpatient medical patients in private and public primary care medical clinics. The inclusion criteria for the study will be: adults ranging in age from 18 years and above suffering from a chronic and serious, but manageable, diagnosed medical condition; determined to be nonadherent to prescribed medical regimen by the referring primary care physician or self-referred patients acknowledging difficulty in adhering to their prescribed medical regimen. Patients usually distort reports of compliance in the positive direction (Kovacs, Goldston, Obrosky & Iyengar, 1992). It would, therefore, be consistent to state that patients who self-report that they are having difficulty with their medical regimen (i.e., adherence problems) are likely to be credible. It also follows that physicians would tend to underestimate noncompliance and therefore, would lean in the direction of accuracy when they do report noncompliance. The subjects should also have the ability to read and comprehend at a minimum of an 8th-grade level. The sample will be representative of patients' problems currently seen in primary care, covering a range of diagnostic categories of chronic illness. The exclusion criteria are: under 18 years of age; reading or comprehension skills below 8th-grade level.

The subjects will be selected and recruited from several primary care physicians and clinics after the physicians have been oriented to the purpose and parameters of the study. The investigator/clinician will request that the physicians employ the above-stated criteria in patient/subject selection. The subjects will be recruited from both public and private clinics, from urban, suburban and rural communities. Socio-demographic

characteristics will be as diverse as possible in order to represent a cross-section of the population-at-large who are afflicted with chronic diseases in order to allow for greater generalization of findings.

Measures

The HBPQ is a self-report questionnaire that is intended to be completed by any person who has a chronic illness and either self-reports or is physician-reported to be having difficulty with their prescribed medical regimen. The HBPQ will be created to assess an individual's attitudes, beliefs, behaviors, relevant issues and personal characteristics regarding adherence/compliance with their medical regimen.

Procedures

The health behavior-profiling instrument is a rationally based instrument reflecting theoretically and empirically derived factors that have been identified from an extensive review of theory, research and clinical practice as related to the area of compliance with medical advice. The factors are divided into categories based on prior research findings (Haynes, 1979; Meichenbaum & Turk, 1987). The process of categorization resulted in the items being placed into five dimensions. Certain categories overlapped, which meant that some items could be allocated to more than one category/dimension. The categories, in the process of further analysis in the future, can possibly be redefined and reduced. However, Fowler (1995) suggests that, generally speaking, in designing questions to measure subjective states, the more categories that respondents are asked to use, the better. Subcategorization can be formed under each category. The questionnaire is rationally divided into the following five categories or

dimensions: Patient Characteristics; Health Status; Treatment Regimen; Patient-Provider Interaction and Environmental Factors.

The instrument contains questions in each category that require closed-ended yes/no (dichotomous) responses. Both positively and negatively worded items are included in the instrument. It is a self-administered questionnaire developed for medical patients with chronic health conditions. It contains objective questions about the respondents' characteristics or behavior, subjective questions about their attitudes or knowledge about the issues, and questions about their perceived or clinically evaluated health status. Specifically, this multi-dimensional construct would reveal the respondent's health-related profile by indicating their problems, behaviors and attitudes in each of the five dimensions.

The purpose of the HBPQ will be to systematically collect information on nonadherence variables by asking the patient questions about a wide variety of factors that influence the individual's decisions, attitudes, behaviors, knowledge, the particular health problems they experience, the barriers to care, the ways in which their knowledge, attitudes and behaviors act or interact to affect the health issue, and the resources they have or perceive as available to deal with the problem (Aday, 1996). The ability of the HBPQ to discriminate adherent versus nonadherent behavior is not consistent with the objectives of the HBPQ, nor is the instrument predictive in nature. It does not, at this point in its development, yield a scaled score. It is, rather, a wide-spectrum descriptive profile of the individual patient. At this stage, the HBPQ is to be utilized as a tool to focus the clinical interview. A copy of the initial draft of the instrument (which includes hypothesized underlying factors related to each item) is included as Appendix C.

This clinical assessment tool can be used to identify current beliefs about self, treatment, medical problems, environment, and the health care provider. The responses that are “flagged” as problem areas or issues in the instrument will be identified and categorized. This part of the assessment guides interpretation and evaluation of the causes of nonadherence. The optimal end-stage consequences of using this instrument are improved adherence to the prescribed medical regimen and subsequent improved health for the patient.

The Gunning Fox Index is recommended as an easy-to-use formula that can be applied to a selected writing sample (Evanoski, 1990). It is this formula which will be applied to the HBPQ to ensure its readability to subjects who have at least an 8th-grade literacy level. In addition to the text, attention will be paid to layout and typography of the document in order to increase its legibility. Type will be easy to read and the information will be visually differentiated, with short sentences, plenty of white space and clearly organized information (DeMillo, 1999). The questions will be formulated utilizing the “Appropriate Language Checklist” put forth by Goldman and Schmalz (1998) which puts forth 19 basic principles of shaping questions to increase survey research clarity (e.g., does the question use a double negative?).

The test user administering this instrument could be a mental health professional (e.g., psychologist, psychiatrist, social worker) or a trained member of the medical profession. The HBPQ will be completed individually, but the test user could administer the tool to several respondents at once.

Kazdin (1992) suggests that, in order to argue that the construct of interest is captured by the measure in a newly developed instrument, evidence on one or more types

of validity is a minimum requirement. Both content and construct validity will be examined. The content validity was established by thoroughly reviewing a multitude of articles (reviews, original studies, and theory), as well as classic texts (e.g. Meichenbaum & Turk, 1987; Bandura, 1986; Blumenthal & McKee, 1987; Glanz, Lewis, & Rimer, 1990; Haynes, Taylor, & Sackette, 1979) to identify a list of factors that adequately represent the universe of factors influencing adherence. These factors served as the basis for the items that were incorporated into the HB PQ. Additionally, to assure content validity, the final pool of items will be reviewed by experts in the field of health behavior and medical adherence in order to obtain judgment as to whether the questions chosen are representative of the concepts they are intended to reflect. Participants will be asked to independently read each item, categorize it into one of five dimensions, as well as explaining/giving their opinion as to what the question is related to in terms of health variables (i.e., subcategorizations). The expert judges will be asked to provide independent decisions as opposed to reaching a consensus agreement. The Kappa statistic will be used to evaluate the agreement between the first author's and the experts' categorizations (Lisper et al., 1997; American Educational Research Association, the American Psychological Association & the National Council on Measurement in Education, 1999).

The experts will additionally be asked to review each item for clarity, congruence of each item with the author's hypothesized dimensions/domains, and errors of omission and commission. In other words, the HB PQ will be examined to determine whether it captures the important aspects of the construct. The items should also be reviewed for

methodological flaws (e.g., cultural biases, inappropriate reading level) and for possible practical flaws (e.g., length, cost, and format) (Morano, 2001).

The revised draft of the instrument (after the changes based on the panel of judges/experts have been made) will be evaluated by a panel consisting of a representative sample of potential respondents comparable to the target population ($N = 5$). The procedure consists of each participant being individually contacted by telephone and explained the time and effort considerations. An evaluation worksheet will be provided to each respondent and collected to provide feedback on the instrument, performance strategies and response issues. Essentially, the purpose of this evaluation activity is to identify threats to standardization regarding question design and evaluation. Regarding specific questions, respondents will be asked to consider the clarity of the items, comprehension, vocabulary, the task difficulty, and respondent interest and attention (i.e., any problems with reading or answering the questions). Regarding the questionnaire as a whole, the respondents will be asked to consider the “flow,” the order of questions, skip patterns, timing, their overall interest and attention, and the adequacy and clarity of directions. This data contributes to the face validity of the measure. Responses will be applied towards creating an improved instrument and information for item modification (Fowler, 1995; Morano, 2001).

The next tier of testing of face validity is a pilot/field test of the instrument with a small representative sample of respondents. This sample population ($N = 30$) will consist of an array of ages, marital status, diverse socioeconomic and geographic status and diverse chronic disease states. The sample should be people who are similar to those who will be respondents in the large planned survey. To the extent possible, the

administrative procedure that the author ultimately intends to utilize will be followed. The questionnaire would be distributed by the investigator, the directions would be explained and it would be requested that the questionnaire be completed honestly and anonymously.

Suggestions for Improvement worksheets will be distributed after the completion of the HB PQ to confirm the clarity of the directions, establish assessment norms, as well as to continue to gather recommendations for instrument content and administration alterations. This data would also be contemplated for any overall changes. The responses will be analyzed for typographical errors, faulty instructions, missing data, non-respondents, random responses and any indicators of respondent difficulty with content or format. The time requirements and the item response rate will be assessed and administrative problems will be identified and reported by the interviewers/investigators. Rates of item nonresponse, for example, (i.e., percent of respondents who do not give an answer at all to questions) indicate the need to reevaluate the wording of the question, the objective of the question, or whether the question should be asked at all (Fowler, 1995).

The data from this field test will provide quantifiable results (i.e., how frequently problems occur across questions and across surveys). Primary issues to be evaluated are respondent comprehension of questions and cognitive aspects of the response tasks. For example, reports of respondents' requests for clarification and the source of the problems can be determined (e.g., reading problems, definition of terms, and response problems). Fowler (1995) raises the issue that questions that led respondents to ask for clarification in 15% of pretest interviews deserve to be flagged as problems, though he acknowledges that this is an arbitrary standard.

In the large-scale test (N = 2,000), each subject will be assessed with the newly developed health behavior survey instrument. The patient/subject will first be oriented to the study by a letter of solicitation. After contact and appointment, the subject will be given the consent agreement for consideration and signature (a copy of which is included in the Appendix B).

The subject will be given the “Health Behavior Profiling Questionnaire” (HBPQ) to complete on-site. The instrument, as formatted for the respondent, is found in Appendix D. The demographic items can be found on Page 1 of Appendix D. The instructions for completing the instrument are located on Page 1 of Appendix D after the demographic items. The HBPQ asks the respondent to choose either a “yes” or a “no” answer regarding each item in each of the dimensions. The HBPQ is a self-report instrument that is to be printed on paper and taken with a pen or pencil. It is intended for an individual to complete the questionnaire by oneself, free of distraction, but it can be administered to a group of individuals at once. There are no intended specialized or standardized conditions for administering the measure. Although the HBPQ is a self-report measure, special accommodations would be made if the respondent needed assistance due to a disability. Careful attention will be paid to creating fairness for all examinees. Each subject will complete the form and, 4 weeks later, complete the form once again.

A scoring key will be available to the test users/investigators, and will indicate which of the 277 item responses are “flagged” as potential problem areas or factors related to nonadherence. The data will be compiled and analyzed.

Research Design

The large-scale test ($N = 2,000$) of the Health Behavior Profiling Questionnaire (HBPQ) will be a psychometric study design. It is a cross-sectional (a single group is representative of the population of interest) correlational study. Data will be gathered at a single point in time with a second reference period (4 weeks later) to test reliability (test-retest) for the various characteristics being reported. In this study, the newly developed instrument, the Health Behavior Profiling Questionnaire (HBPQ) will be studied for reliability and validity in relation to meeting the above-stated objectives.

Validation Plan – Statistical Analysis

The purpose of the validation plan is to provide evidence that the construct of a health behavior profile is useful and that this instrument validly represents this construct. This plan is established in accordance with guidelines set forth by Aday (1996), American Educational Research Association et al., (1999), Fowler (1995), Morano (2001), and Rudner (1993).

Reliability analysis will be conducted, including internal consistency and test-retest reliability for the total score and subscale scores. Aday (1996) reports that the Kuder-Richardson formula (a special case of the alpha coefficient) is used when the response categories are dichotomous (such as the question format of the HBPQ). Corrected item-total subscale scores will be calculated and these correlations will serve as a second measure of internal consistency. It would be desirable that Cronbach's alpha will be at least .80 for within and across each dimension.

Descriptive statistics of patient characteristics will be calculated. Comparisons of factor scores for demographic variables, including gender, race, diagnosis, age, and

education will be conducted. The demographic data will be derived from information requested at the top of the HBPQ and, additionally, requests for this data are embedded within the instrument (see Appendix C, Patient Characteristics).

The final statistical application for this reliability plan will test and retest the same respondents within 4 weeks of each other. The data from the administration of the instrument to a “large” representative sample ($N = 2,000$) will be utilized for this particular analysis. This will verify that the HBPQ is a reliable instrument that measures/profiles an individual’s self-report of their difficulties and behaviors regarding the management of their chronic illness and their medical regimen. This particular group’s data will be utilized for the test-retest coefficient. An additional goal for this portion of the validation process is to continue to gain feedback from the respondents that will aid in the redrafting and in finalizing the entire “Best Practices” process. It is hypothesized that their test-retest coefficients should not be dramatically different ($r_s = .75-.85$) in the course of 1 month, especially in light of the nature of the target population; that is, individuals with chronic illness and a pattern of noncompliance. Therefore, without intervention, there should only be a slight difference in the test-retest scores.

The procedure for testing the instrument on the sample involves recruiting 2,000 different people with diverse demographic variables (as specified in the pilot/field test). The participants will be recruited in response to requests for referrals from individual physicians and facilities serving the target population, in addition to advertisements requesting volunteers meeting the inclusion and exclusion criteria. Respondents will not earn financial recompense for their participation.

This sample will also be asked to complete an additional measure, which will be compared to the HBPQ measure. The correlation of the HBPQ with patient ratings of noncompliance (i.e., the patient's self-rated level of difficulty in adhering to his/her medical regimen) would provide a quasi-independent rating. A Likert scale with a rating scale of 1 to 5 will be utilized, with 5 being extremely adherent, 4 being a great deal adherent, 3 being a good deal adherent, 2 being somewhat adherent, and 1 being not at all adherent. It is hypothesized that a higher self-rating on nonadherence would correlate highly and negatively with factors identified on the HBPQ. The instrument's author will administer this process.

This final segment of the HBPQ's validation plan will focus on the external stability of the tool by performing a series of empirical investigations. These findings will either confirm or disconfirm the hypothesis underlying the development of this instrument. That is, that health-related beliefs, attitudes and behaviors could be systematically and accurately identified (in the service of treatment planning to improve compliance with medical regimen).

Construct validity will be investigated utilizing an inverse cluster analysis (to create cluster scores necessary in a dichotomous instrument prior to factor analysis) (R. DiTomaso, personal communication, May 4, 1999). The questionnaire will be factor analyzed and the factor structure of the instrument will be studied. Means and standard deviation of the subscales will be calculated.

It is hypothesized that the HBPQ dimensions' total scores will highly and negatively correlate with the other related measure (i.e., the self-rated level of noncompliance). This will begin to provide evidence for Convergent Validity.

The demographic variables will provide data on possible differences between groups (e.g., the younger subgroup versus the elderly subgroup, males versus females, and between different racial groups) as well as present support of additional attributes. This data will indicate whether particular items may function differently for identifiable subgroups of examinees (i.e., systematically different responses to a particular item). This aspect of the analysis is related to the internal structure of the measure. It provides a form of discriminant validity in that the pattern of association can show evidence of differences among respondents as they are, in fact, thought to differ.

Anticipated Results and Limitations of the Study

The author would expect the factor analysis to produce several dimensions that were rationally derived, making the instrument multifactorial in nature. It is anticipated that the hypothesized associations among the respective dimensions will be correlated. Because the inventory will probably be found to have extensive sets of factors, the factor structure will not necessarily be measuring the unitary phenomenon of nonadherence behaviors. The variables and the categories do not comprise discrete classes and are not necessarily independent of one another (Meichenbaum & Turk, 1987). In terms of construct validity, the author anticipates a high correlation of questions measuring the same things.

Across hundreds of studies undertaken and throughout the reviews, it is clear that variables that operate to impact most on adherence vary not only across demographics and individuals, but also across illnesses. The conceptualization derived from this assessment would be expected to lead to a customized, realistic, and effective intervention plan.

There may be limitations with the data that will warrant caution in generalizing to other samples. The proposed study population, though relatively large, may not be representative. This will not be evident until the data has been analyzed. The reliability of the measure may be compromised and errors of measurement may take place due to problems such as inconsistency of examinees (e.g., test anxiety, motivation, interest and attention), flaws in the research design, testing site differences and distractions (American Educational Research Association et al., 1999).

The HBPQ is designed to be utilized with a patient when the HCP suspects nonadherence is negatively affecting treatment efficacy and subsequent health outcome or when a patient self-reports difficulty with the treatment regimen. Testing and analysis of the HBPQ, as proposed, is anticipated to yield preliminary information regarding the patient's issues related to the treatment. It is important to keep in mind that the objective of the HBPQ is not to measure adherence, its nature or its degree, but to identify problems (patient expectations, issues, beliefs, attitudes, and behaviors) related to, and which can and do, affect adherence.

The investigator finds, to date, no known measures that are widely used research instruments with known psychometric properties with which to correlate this instrument's measures. It would be desirable, in future research on the HBPQ, to perform correlational analysis if another measure of the same construct can be identified.

Self-report measures are, by nature, subjective. There are no right or wrong answers to most of the questions on the HBPQ. There is "no direct way to know about people's subjective states independent of what they tell us" (Fowler, 1995, p. 46). In this measure, subjective states refer to people's knowledge and perceptions, their feelings,

and their judgment. The bias and inaccuracy in the HBPQ can be further offset by utilization of multiple measures such as: interview, clinical rating, physiological indicators, physician rating, and clinical outcome. Another fact to keep in mind is that “there is no straightforward relationship between treatment adherence and successful health outcome” (Meichenbaum & Turk, 1987, p.38)).

In addition to the predominant number of subjective questions, many questions on the HBPQ are aimed at ascertaining objective events. For these questions, validity can be determined by the correspondence between the survey report and some other measure of the same phenomenon (e.g., medical records or some other reliable outside data) (Fowler, 1995).

The closed-ended yes/no responses of the HBPQ make the questionnaire conducive to the possibility of computerizing data collection and analysis. However, this form of question and response has limitations, especially regarding subjective material. Fowler (1995) recommends “when the reasoning behind a conclusion, a behavior, or a preference is of interest, the best way to learn about it is to hear the respondent’s own words” (p. 178). Therefore, the author recommends a follow-up session (after the measure has been tabulated) in order to elicit narrative answers in addition to the responses to the standardized, fixed-response questions. This will provide the clarification and expansion of information necessary to create a truly informed conceptualization of the patient’s issues.

In conclusion, the author hopes to find support for the validation of the HBPQ. The literature review indicates that the HBPQ is an original instrument. Hopefully, individuals utilizing this instrument and the information derived from its analysis, will,

through the selection of efficacious treatments for therapy, help people gain the ability to adhere to the necessary aspects of their medical regimen and, thereby, improve their health. This author will attempt, in implementing the validation plan, to make a compelling case that the instrument is valid and appropriate for its intended use.

CHAPTER 7

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[Reproduction]

Appendix A

November 8, 1999

Dear Dr. -----:

As we have discussed, I am in the process of seeking a medical patient for the purpose of a case study which will be included in my doctoral dissertation. My dissertation is entitled "Structured Multifaceted Cognitive Behaviorally Oriented Assessment and Treatment of Nonadherence to Medical Advice: A Case Study." The parameters of the study, including the basic criteria for the patient characteristics (i.e., inclusion and exclusion criteria) are described in the enclosed P.C.O.M. "Application for Review by Institutional Review Board," the "Informed Consent Form" and the proposed "Consent to Tape" form.

I am requesting your review of the enclosed material and your subsequent agreement to participate in my case study by providing medical information (subject to the patient's agreement), and by your agreement to participate in the follow-up aspects of the study. I would greatly appreciate your consent in writing. Please note that the study will proceed subject to the review and approval of the P.C.O.M. Institutional Review Board.

Sincerely,

Cheryl A. Patchin

Appendix B

INFORMED CONSENT FORM

TITLE OF STUDY

Title: Structured Multifaceted Cognitive Behaviorally Oriented Assessment and Treatment of Nonadherence to Medical Advice: A Case Study

PURPOSE

The purpose of this research is to find out how useful a list of questions and an interview are in helping to point out the causes of problems with medical advice. We also want to give treatment for the problems which we find. You are being asked to be part of this research study because your doctor referred you as a person at least 18 years of age, who has a medical condition and who may be having problems with the medical treatment prescribed by your doctor. If you are less than 18 years of age or if you have certain mental health problems, you cannot be in this study.

INVESTIGATOR(S)

Name:	Robert A. DiTomasso, Ph.D.	Cheryl Patchin, M.Ed.
Department:	Department of Psychology	Department of Psychology
Address:	Philadelphia College of Osteopathic Medicine 4190 City Avenue Philadelphia, PA 19131	Philadelphia College of Osteopathic Medicine 4190 City Avenue Philadelphia, PA 19131
Phone:	(215) 871-6442	(215) 871-6442

The doctors and scientists at Philadelphia College of Osteopathic Medicine (PCOM) do research on diseases and new treatments. The questions, the interview, and the counseling procedure/treatment you are being asked to volunteer for is part of a research project.

Even though this research project is to study a questionnaire, an interview, and a treatment, which involves giving you counsel to help manage your illness and to follow your doctor's advice, no one can say that this will be better than the usual treatment. If you have any questions about his research, you can call Dr. Robert A. DiTomasso
(215) 871-6442.

If you have any questions or problems during the study, you can ask Dr. DiTomasso, who will be available during the entire study. If you want to know more about Dr. DiTomasso's background, or the rights of research subjects, you can call Dr. John Simelaro, Chairperson, PCOM Institutional Review Board at (215) 871-6337.

DESCRIPTION OF THE PROCEDURES

1. You and Cheryl Patchin will meet at your doctor's office. You will be asked questions about your background, which includes questions about your health and mental health, your drug and medicine use, your family background and their health, your schooling, and your social and work history. This interview will take 45 to 60 minutes.
2. You will be given a list of questions, mostly about your health and how your health care is managed. There are 277 questions with yes or no answers. The list of questions will be given to you in your doctor's office during the first session of the study. It can take 60 to 90 minutes to complete.
3. At a second visit to your doctor's office, you will meet again with Cheryl Patchin to go over the answers to the list of questions. You will help to decide which goals you have for your health and to begin to decide what might be helpful for you in the way your health care will be managed. This meeting will take up to 2 hours.
4. Cheryl Patchin will review what you and she have discussed with your doctor. A plan of treatment will be made, which includes what you, your doctor, and Cheryl Patchin have agreed will best meet your health and health management needs.
5. Starting with the third visit to your doctor's office, Cheryl Patchin will begin to give you help, which is meant to improve your health and to make it more easy for you to follow your doctor's advice. This treatment will take place in from 5 to 10 sessions, with each session lasting about one hour. The type of treatment you will be given is sometimes called "talk therapy" or counseling. You will be learning how to solve problems you may be having with your health care.

POTENTIAL BENEFITS

You will talk with your therapist, Cheryl Patchin, about reasons you may be having problems with your medical care. Your doctor will receive a written report, which points out reasons why you may be having problems with your medical care. This report will suggest ways to improve your health and to make it easier for you to follow your doctor's advice. The doctor may be asked to change or to help improve your medical care. You can learn more about your health and how to manage and improve your health.

RISKS AND DISCOMFORTS

1. Both the information-gathering and the treatment parts of the study ask that you spend time in the doctor's office meeting with Cheryl Patchin, giving information, making decisions, and planning actions. Spending this amount of time may not always be easy or convenient for you.
2. Part of the study asks for personal information about you, your family and friends, your health, your health care, how you manage your health care, and your opinions. It is possible that it may upset you to discuss some of this information.
3. The treatment part of the study may ask that you think about change in how you manage your health care or that you do make some changes. Thinking about change, changing, or even thinking about something new, (for instance, in how you see yourself, your health, or your relationships) can be stressful.
4. There may also be other possible side effects of this study that are not yet known.

ALTERNATIVES

The alternative is to not participate in this study and to have the usual treatment for problems with health care management.

COMPENSATION

You will not receive any payment for participation in this study.

CONFIDENTIALITY

All information and medical records relating to your participation will be kept in a locked file. Only the doctors, members of the Institutional Review Board, and the U.S. Food and Drug Administration will be able to look at these records. If the results of this study are published, no names or other identifying information will be used.

CIRCUMSTANCES UNDER WHICH YOUR PARTICIPATION MAY BE STOPPED WITHOUT YOUR CONSENT

If health conditions occur that would make your participation possibly dangerous, or if other conditions occur that would damage you or your health, Dr. Robert A. DiTomasso or his associates may stop your participation in this study. In addition, the entire study may be stopped by the investigators if dangerous risks or side effects develop.

NEW FINDINGS

If any new development or information becomes available that may affect your willingness to continue participating in this study, you will be told about it.

INJURY

In the event that you are injured as a result of this research study, you will be provided with immediate necessary medical care.

However, you will not be provided with reimbursement for medical care or receive other compensation. PCOM will not be responsible for any of your bills, including any routine medical care under this program or reimbursement for any side effects which may occur as a result of this program.

If you believe that you have suffered injury or illness in the course of this research, you should notify John Simelaro, D. O., Chairperson, PCOM Institutional Review Board at (215) 871-6337. A review by a committee will be arranged to determine if your injury or illness is a result of participation in this research. You should also contact Dr. Simelaro if you believe that you have not been adequately informed as to the risks, benefits, alternative procedures, or that you are being pressured to continue in this study against your wishes.

VOLUNTARY PARTICIPATION

You may refuse to participate in this study. You voluntarily consent to participate in this study with the understanding of the known possible effects or hazards that might occur while you are in this study. Not all the possible effects of the study are known.

You may withdraw from this study at any time.

You also understand that if you withdraw from this study, there will be no penalty or loss of benefits to which you are entitled.

I have had adequate time to read this form and I understand its contents. I have been given a copy for my personal records.

I agree to participate in this research study.

Signature of Subject: _____

Date: ____/____/____ Time: _____AM/PM

Signature of Witness: _____

Date: ____/____/____ Time: _____AM/PM

Signature of Investigator: _____

Date: ____/____/____ Time: _____AM/PM

Consent for Taping Sessions

I, _____, agree to allow my treatment sessions with Cheryl Patchin to be voice-taped and then copied for typing.

I understand that these tapes will be kept secure and private as are all other notes, treatment plans, forms and other papers related to my treatment. Also, I understand that these tapes are to be used for study and research only and will not be used for any other purpose unless I agree in advance and in writing.

I understand that the taped sessions will be typed and will become part of a written record of my case to include in a study. My name will not be used in either the tapes or the written paper from the tapes. No one will know that the tapes or the written paper is about me, except my doctor and Cheryl Patchin.

Further, I understand that this permission will not effect how my treatment is managed. My treatment will not change if I agree or do not agree to allow my sessions to be taped.

Patient Name (Print)

Patient Signature

Date

Witness Name (Print)

Witness Signature

Date

Appendix C

Health Behavior Profiling Questionnaire (HBPO)

© 1999

Cheryl A. Patchin

Robert DiTomaso

Name _____ Age _____ Date of Birth _____ Sex _____

Birthplace _____ Race and Nationality _____

Highest Grade Completed _____ Religion _____ Source of income _____

Occupation _____ Total # in household _____ Referred by _____

Primary medical diagnosis _____ Date first diagnosed _____

I. Patient Characteristics

- __ Are you under 25 years of age? (age-youth socio-demographics)
- __ Are you older than 65 years of age? (age - elderly)
- __ Based on your racial background, would you be considered a minority? (race)
- __ Are you employed at present? (employment status)
- __ Did you graduate high school? (education)
- __ Is reading a book, magazine, or newspaper difficult for you? (reading ability)
- __ Have you ever been in treatment or hospitalized for a mental health problem? (psych. hx.)
- __ Have you ever been diagnosed with a psychiatric disorder? (psych. hx.)
- __ Are you currently taking any medication for your nerves? (psych. hx.)
- __ Do you generally avoid health risk behaviors such as smoking, alcohol, or drugs? (substance use-health risk behavior)
- __ Do you ever wish you were dead? (suicidal ideation)
- __ Do you believe that others are trying to harm you in any way? (paranoia)
- __ Do you think there is a conspiracy? (paranoia)
- __ Are you feeling anxious and tense, in general? (psych. status - anxiety)
- __ Are you feeling depressed? (psych. status -- depression)
- __ Do you get tired easily? (psych. or health status)
- __ Have you been getting more forgetful recently? (memory)

- __ Have you been getting confused? (orientation)
- __ Do you have trouble remembering when to take your medication? (memory)
- __ Do you have the time available to obtain the treatment your HCP has recommended? (time - barriers - HBM)
- __ Do you have any problems with transportation which may affect your ability to get treatment? (transportation - barriers - HBM)
- __ Do you have the money to afford the treatment that your HCP has recommended? (cost- barriers - HBM)
- __ Do you generally arrange your own appointments? (ability/dependence/passivity)
- __ Have you missed appointments for HCP visits in the past? (adherence hx.)
- __ Do you usually keep appointments? (adherence hx.)
- __ When your HCP refers you to another HCP, do you keep your appointments? (adherence hx.)
- __ Do you want to do what the HCP recommended? (motivation)
- __ Are you confident that you can follow the directions given by your HCP? (confidence)
- __ Do you usually take prescribed medications as recommended? (adherence hx.)
- __ Do you tend to stop treatment when your symptoms go away? (adherence hx.)
- __ Are you hopeful about your ability to improve your condition by changing your behavior? (optimism/self-efficacy)
- __ Do you believe that you can do anything to change your medical condition? (optimism/self-efficacy)
- __ Have you ever consciously decided not to do what your health care provider recommended? (resistance/adherence hx.)
- __ Have you used drugs or alcohol when it was specifically recommended that you do not do so? (health risk behavior)
- __ Are you self-conscious about your condition? (self-image)
- __ Do you dislike how people treat you as a result of your condition? (social stigma)
- __ Do you prefer not to think about things that have to do with health and medical issues? (avoidance)
- __ Do you like to keep up-to-date about the latest medical news and treatments regarding your medical problem? (information-seeking)
- __ Do you believe that even if you do everything the HCP recommends, you may still get sick? (pessimism)
- __ In uncertain times, do you usually expect the worst? (pessimism)

- __ Do you believe that you are likely to get worse no matter what you do? (pessimism)
- __ Are you generally an optimist/hopeful about things? (optimism)
- __ Do you always tend to look on the bright side of things? (optimism)
- __ Does it seem as though you are in control enough to be comfortable with your treatment plan? (control)
- __ Does your situation seem hopeless? (pessimism/hopelessness)
- __ Do you believe that it is your, and yours alone, responsibility to decide about your medical care? (autonomy/independence/counter-dependence)
- __ Did you delay in seeking medical care even after you were not feeling good? (denial/avoidance)
- __ Do you believe that you must follow your HCP's advice 100% to bring about the best health outcome? (compliance)
- __ Would you say that someone else in your life is the main reason that you are unable to follow your HCP's advice? (blame/projection/dependence)
- __ Have you been avoiding activities you normally engage in because of your condition? (avoidance behavior)
- __ Have you been avoiding activities you normally engage in because of fear of worsening your condition? (illness-related fear)

II. Health Status

- __ Have you been diagnosed with a medical problem which may be longterm? (chronicity)
- __ Do you believe that you have a chronic (on-going) medical problem? (chronicity)
- __ Does your illness come and go? (chronicity)
- __ Do you see your illness as a short-term illness? (chronicity)
- __ Do you think that your condition will be with you for life? (chronicity)
- __ Are you able to lead a fairly normal life considering your health problems? (function)
- __ Do you believe that you are okay, healthwise, just as you are? (denial)
- __ Do you have any physical discomfort or symptoms at all? (symptomology)
- __ Do you have symptoms all the time? (symptomology & chronicity & severity)
- __ Do you feel a lack of strength or energy? (symptomology)
- __ Do you have frequent or on-going pain? (symptomology)
- __ Is your condition stressful? (anxiety)
- __ Do you believe that there was an unnecessary delay in diagnosing your condition? (blame/ HCP issue)
- __ Are you aware of any risks your condition contributes to your future health? (health threat)
- __ Has your condition caused any other medical complications? (comorbidity)
- __ Do you believe that the long-term outlook for your health is positive? (optimism/denial)
- __ Do you experience any psychological or emotional discomfort from your condition? (comorbidity/psych.sx.)
- __ Do you believe your condition will improve without any action on your part? (passivity/denial/fantasy)
- __ Do you believe that the HCP may be exaggerating the health risks to you if you don't follow the treatment plan? (denial/HCP issue)
- __ Are you angry/resentful about your condition? (adjustment)
- __ Are you frustrated with the limitations imposed on you by your health problems? (adjustment)
- __ Would you like to read or view educational material about your condition? (info./education)
- __ Does your condition cause you to feel out of control? (control/helplessness)
- __ Are your symptoms changing in nature? (stability)
- __ Have your symptoms been getting worse over time? (stability)
- __ Do you do things which will prevent future health problems- things which are

- recommended by medial professionals? (action-proactivity)
- __Has your physician recommended any changes in your habits related to your health? (lifestyle modification)
- __Do you believe the HCPs recommendations will be helpful to you? (outlook & benefit)
- __Do you believe the recommendations are worth the trouble to carry out? (outlook & cost)
- __Do you have more than one important medical problem? (comorbidity)
- __Do you have more than one long-term health problem which you do not consider important? (comorbidity)
- __Do you have other medical/health problems which you believe are more important to treat? (comorbidity)
- __Does the idea of adding another treatment/medication to your current regimen seem like too much? (multiple treatments /complexity)
- __Are you fearful of death as a result of your condition? (fear/negative outcome expectancy)
- __Are you impatient with the rate of progress you have made in getting better? (adjustment/coping status)
- __Do you believe that if your health has not changed due to your condition, it is likely to remain the same? (outlook/outcome expectancy)
- __Does your condition seem to be harmless? (perception of severity – HBM)
- __Does your medical condition run in your family? (hereditary)
- __Are you confident that you will recover fully? (outcome expectancy/confidence re. recovery)
- __Have you known anyone in a similar situation? (environment)
- __Do you have ideas about what might be done to improve your health situation? (self-regulation/ problem-solving)
- __Do you believe that your condition has been misdiagnosed? (confidence re. dx.)
- __Are you withholding any information about your condition from your HCP? (trust/avoidance/ non-adherence)
- __Have there been any complications resulting from past failure on your part to follow your HCP's advice? (adherence hx.)
- __Are you worried about your health, in general? (anxiety)
- __Are you hopeful about being able to control your condition? (optimism & control)
- __Are you worried about your condition? (anxiety)
- __Do you believe that your condition is a serious medical problem? (perception of severity)

- __ Do you believe that any medication recommended by the HCP will be helpful to you? (outlook re. benefit – HBM)
- __ Would you like more information about your condition? (information)
- __ Have you learned much on your own about your condition? (information)
- __ Do you believe that physicians have correctly diagnosed your condition? (confidence re. dx.)
- __ Do you believe that you are medically ill? (denial)
- __ Do you know what causes this illness? (information)
- __ Do you have an idea of why you have the condition which has been diagnosed? (attribution)
- __ Do you have some idea of what will make you better? (participation/self-regulation)
- __ Do you feel vulnerable to serious consequences to your health from your condition? (vulnerability/health threat – HBM)
- __ Is your condition disruptive to your life? Does it cause inconvenience or difficulty? (symptomology/cost)
- __ Is your condition a threat to your well-being? (health threat – HBM)
- __ Do you believe there is an immediate risk to your health because of your condition? (health threat-HBM)
- __ Do you believe there is a long-term risk to your health because of your condition? (health threat – HBM)
- __ Does your condition affect your daily routine? (sx. severity)

III. Treatment Regimen

- __ Have you currently been prescribed any medication by your physician for a medical condition? (medication)
- __ Did you fill your prescription? (medication compliance)
- __ Are you taking this medication? (medication compliance)
- __ Are you putting off beginning the treatment? (procrastination/medication compliance)
- __ Did you only take a portion of the medication? (medication compliance)
- __ Did you decide not to take the medication yet? (medication compliance)
- __ Are you able to use the treatment in the way it was prescribed? (ability to follow tx. plan/
self-efficacy)
- __ Is there something about your treatment that you don't like? (barriers – HBM)
- __ Are you worried about certain side effects you might get from this treatment? (fear of side
effect/barrier/cost)
- __ Do you have side effects from your medicine? (side effect/barrier/cost)
- __ Are any side effects intolerable or very unpleasant for you? (side effect/barrier/cost)
- __ Are side effects you have experienced from the treatment a large part of your decision
about not following your HCP's recommendations? (side effect/barrier/cost)
- __ Do you worry that the drugs could build up in your system and cause damage over
time? (toxicity)
- __ Are you still in the process of deciding what to do about your HCP's treatment plan? (cost/benefit
analysis)
- __ Are you absolutely 100% clear about the instructions for your treatment? (confusion/lack of info.)
- __ Would you like more information about your treatment? (education)
- __ Do you believe there are benefits to the treatment? (benefits)
- __ Do you have confidence regarding the value of the treatment in controlling/managing
your condition? (outcome expectations/tx. efficacy)
- __ Do you believe that you are taking too many medications? (no. & complexity)
- __ Are you fed up with the number of medications you are currently taking? (no. & complexity)
- __ Do you not want to add any more medications to those you are already taking for
other conditions? (no. & complexity)
- __ Are you taking more than one dose a day for each medication you take? (dosage)
- __ Have you been taking this treatment for longer than you want to? (duration)

- __ Is the length of the treatment too long? (duration)
- __ Is your medication hard to swallow? (medication awkward)
- __ Is your medication awkward for you to use in any way? (medication awkward)
- __ Do you have trouble reading the labels on your medication bottle? (medication awkward or reading)
- __ Are you able to perform the treatment regimen your HCP has recommended? (ability/self-efficacy)
- __ Would you like a guided demonstration or practice under professional guidance for any position of your treatment? (education)
- __ Do you believe that you need to start more slowly into your treatment program? (incremental)
- __ Do you honestly believe that the treatment will work in keeping your condition from getting worse? (tx. efficacy)
- __ Does your treatment control your symptoms? (tx. efficacy)
- __ Do you believe that the treatment will work to improve your condition? (tx. efficacy)
- __ Do you believe that the treatment will help you to recover completely from your condition? (tx. efficacy)
- __ Have you discontinued medication earlier than recommended in the past? (adherence hx.)
- __ Do you have lifestyle changes such as diet, exercise, or stress management as part of your treatment plan? (lifestyle modification)
- __ Are you willing to perform the treatment regimen that your HCP has recommended? (behavioral intention)
- __ Do you see any immediate benefits from following the treatment plan recommended by your HCP? (tx. efficacy)
- __ Do you believe that the HCP may be exaggerating the benefits you will get from the treatment? (tx. efficacy)
- __ Is it inconvenient for you to follow all of your treatment requirements? (barrier/cost)
- __ Are you too busy to take care of all of your treatment requirements? (time/barrier)
- __ Would you like someone to review the instructions for your medication or other treatment with you? (education)
- __ Did you get a medication instruction sheet with your medication? (information)
- __ Can you take your treatment without problems? (ability/self-efficacy)
- __ Are you likely to overcome the problems you have in following the HCP's treatment recommendations? (self-efficacy/outcome expectancy)

- __ Does the treatment which the HCP recommended seem different from the kind of treatment you are used to? (culture)
- __ Do you believe the treatment will work? (tx. efficacy/outcome expectancy)
- __ Is the treatment too much trouble for what you get out of it? (cost-benefit analysis)
- __ Is your treatment stressful? (cost/barrier)
- __ Are you currently satisfied with your decision regarding your medical treatment? (adjustment)
- __ Are you angry/resentful about the treatment that you are supposed to follow? (adjustment)
- __ Do you believe that the treatment plan is too strict? (stringency – HBM)
- __ Are you afraid of possible side effects based on your past experience with other treatments? (side effect hx.)
- __ Do you often forget to take your medication? (memory)
- __ Have you already, or do you plan to, try something other than what your HCP recommended to treat your condition? (self-medicating)
- __ Have you prescribed any treatment for yourself? (self-medicating)
- __ Are you taking medication which has not been prescribed for you? (self-medicating)
- __ Are you creating your own treatment regimen to “fill in the gaps” of what you believe your HCP is overlooking? (self-medicating)
- __ Are you substituting your own program for the recommended treatment regimen? (self-medicating)
- __ Would you like to read or view educational material about your treatment? (education)
- __ Do you know what to do regarding your treatment? (information/education)
- __ Do you have a problem understanding the instructions about your treatment? (information/education)
- __ Is the treatment which the HCP has recommended too complicated for you to follow? (complexity)
- __ Have you not started treatment programs in the past that you were told to by a HCP? (adherence hx.)
- __ Do you follow the treatment instructions 100%? (adherence hx.)
- __ Do you tend to discontinue treatment earlier than you are supposed to? (adherence hx.)
- __ Have you ever stopped taking your treatment because you felt better? (adherence hx.)
- __ Do you believe that the treatment will prevent long-term health damage? (tx. efficacy)
- __ Are you concerned about becoming dependent on your medication? (addiction fear)

- __ Do you believe the treatment will stop working if your system gets too much of it? (tolerance fear)
- __ Are you concerned that you will develop an immunity to your medication? (immunity fear)
- __ Do you prefer “natural” or home remedies to standard prescribed medicine? (alternative)
- __ Are you embarrassed about your treatment? (social stigma)
- __ Do you believe that people are weak or dependent if they have to take medication all the time? (self-efficacy/control)
- __ Do you believe the treatment does you more harm than good? (tx. efficacy/cost-benefit analysis)
- __ Do you believe that your HCP selected the best medicine/treatment for you? (tx. efficacy)
- __ Have the benefits of the treatment been well explained to you? (info./education)
- __ Are you withholding information about your treatment management from your HCP? (adherence/pt.-provider issue)
- __ Have you had any negative experiences with a similar treatment? (negative hx.)
- __ Has someone you know suffered a very negative reaction to the same treatment that you have been prescribed? (negative hx. – environment)
- __ Have you had any positive experiences with a similar treatment? (positive hx.)
- __ Have you had trouble taking medicine for any reason in the past? (negative hx.)
- __ Does the treatment program fit with your lifestyle? (barrier)
- __ Are you upset by the cost of your treatment? (cost/barrier)
- __ Are you confident in your ability to continue the treatment as long as you need to? (self-efficacy)
- __ Are you willing to consider a different medication/treatment from the one you are currently rejecting? (alternative tx.)
- __ Is there more than one reason that you are not following your treatment plan? (adherence)
- __ Is your behavior regarding your treatment your way of trying to avoid the whole issue of your medical situation? (denial/avoidance)
- __ Is your behavior regarding your treatment your way of protesting against the treatment? (control/passive-aggressive)
- __ Does it seem as though you are going along with the treatment to satisfy others? (passive-dependence)
- __ Do you like to consult with pharmacists about your medication? (information source)
- __ Have you talked to your pharmacists for advice and information about your treatment? (info. source)
- __ Have you prescribed any treatment for yourself that your HCP is unaware of? (self-medicating)

IV. Patient-Provider Interaction

- __ Was your HCP's recommendation for your treatment convincing to you? (cost-benefit/communication)
- __ Was your HCP's recommendation for your treatment strong? (value/provider communication)
- __ Does your HCP seem very concerned and serious about your needs to treat this condition? (provider communication)
- __ Were you given adequate information from your HCP regarding your treatment? (info./ provider communication)
- __ Did you HCP give you as much information as you want about your condition? (info./provider communication)
- __ Does your HCP seem impatient with you? (provider behavior)
- __ Do you believe that your HCP cares about your welfare? (relationship)
- __ Do you respect your HCPs too much to question them? (pt. behavior – culture)
- __ Do you believe that your freedom of choice about your treatment is being denied? (collaboration)
- __ Do you believe that you were fully informed about the treatment that was recommended to you? (informed consent)
- __ Do you believe that you were given misleading information about the treatment you have received? (informed consent)
- __ Do you believe that your medical care has not been managed properly? (trust/tx. efficacy)
- __ Does your HCP tend to get feedback from you about any problems you are having with your treatment? (relationship/participation)
- __ Were you told by your HCP what possible unpleasant side effects you might expect to experience? (information)
- __ Were you told by your HCP what results that the treatment was expected to bring about? (information)
- __ Were you told by your HCP why he/she was prescribing the treatment? (information)
- __ Are you treated with respect and dignity by your HCP? (provider behavior)
- __ Do you agree with the opinions of the HCP? (collaboration/tx. efficacy)
- __ Do you remember the details your doctor told you about your medical condition? (memory/information)
- __ Are you comfortable asking your HCP questions? (relationship/collaboration)
- __ Are you satisfied with your relationship with your HCP? (relationship/collaboration)
- __ Do you trust your HCP? (patient perception/attitude re: provider)

- ___ Do you like your HCP? (patient perception/attitude re: provider)
- ___ Do you get very nervous when you meet with your HCP? (patient anxiety)
- ___ Do you believe that the HCP listens and understands you? (HCP communication skill)
- ___ Are your questions answered in a way that you understand? (HCP communication skill)
- ___ Do you believe that your HCP is as knowledgeable as he/she can be? (provider efficacy)
- ___ Does it seem that your HCP does not know enough about your medical condition? (provider efficacy)
- ___ Does it seem that you know more about your medical condition than your HCP? (provider efficacy)
- ___ Do you get to spend enough time with your HCP during an office visit? (barriers re. tx.)
- ___ Would something make your visits with your HCP better or more worthwhile for you? (barriers re. tx.)
- ___ Would you like a family member or a friend to join you in talking with the HCP? (communication)
- ___ Were you included in the decisions made about your treatment? (collaboration)
- ___ Would you like more equality with the medical care team? (collaboration)
- ___ Would it be helpful to include you in the decisions made about your treatment? (collaboration)
- ___ Would you like to be included and participate more in the medical team decisions about your care? (collaboration)
- ___ Would you like to negotiate some compromise or changes in your treatment plan with your HCP? (collaboration)
- ___ Do you believe that your HCP can come up with a better treatment than the one you have been given? (compromise/alternative tx.)
- ___ Is your HCP not sensitive to the way that the side effects of your treatment affect you? (side effects/provider behavior)
- ___ Is there disagreement between the HCPs regarding your diagnosis or your treatment? (barrier/confidence)
- ___ Do you believe that you need telephone or written reminders to help you follow your HCPs advice? (memory/communication/adherence-promoting technique)
- ___ Would you like more follow-up visits with your HCP than you currently are being scheduled for? (communication/adherence-promoting technique)
- ___ Do you see the same HCP each time you come for a medical visit? (continuity of care)
- ___ Do you believe that more supervision by the medical team would be helpful? (communication/adherence-promoting technique)
- ___ When you need an appointment, do you find you have to wait too long to get an appointment? (barrier)

- ___ Once you are at your HCP's office for an appointment, do you believe that you have to wait too long in the waiting room? (barrier)
- ___ When you visit with your HCP, is the wait in the examination room too long? (barrier)
- ___ Are the professional staff attitudes in the HCP's office helpful and supportive? (medical environment)
- ___ Are you satisfied with the staff at your HCP's office? (medical environment)
- ___ Are you satisfied with the way that the staff treats you when you call or visit the office? (medical environment)
- ___ Are you satisfied with the medical facility where you see your HCP? (medical environment)
- ___ Do you have a particular pharmacist that you can talk to? (information resource)
- ___ Are you likely to seek out another HCP for another opinion about your condition? (self-regulation/trust)
- ___ Are you likely to seek out another HCP for another opinion about your treatment? (self-regulation/trust)
- ___ Do you resent being referred out to another HCP? (continuity of care)
- ___ Has your HCP given you reassurance that your condition can be managed with proper care? (reassurance)

V. Environment

- __ Is there someone in your community who gives you medical advice? (culture)
- __ Do you go to a folk healer or non-physician for advice about your health? (culture)
- __ Does anyone you know well have the same medical condition as you? (environment)
- __ Do others you know of with the same condition have the same treatment that was recommended to you? (environment)
- __ Do people around you agree with what the HCP told you about your illness? (environmental support)
- __ Do people around you agree with what the HCP prescribed as treatment for your illness? (culture/environment/support)
- __ Did anyone frighten you about your health problem? (culture/environment/support)
- __ Did anyone frighten you about the treatment which was prescribed? (culture/environment/support)
- __ Do those you live with want you to follow your HCP's advice? (environmental support)
- __ Are others around you pressuring you not to follow you HCP's recommendations? (environmental support)
- __ Is your family going through any current crises or serious troubles? (environmental support)
- __ When it comes to your medical condition, are people at home helpful and supportive of you? (environmental support)
- __ Are people in your family helping you with the treatment? (environmental support)
- __ Is there someone else who could help you to follow your HCP's advice? (environmental support)

Appendix D
[Reproduction of Patient Response to HBPG]

Health Behavior Profiling Questionnaire

© 1999

Cheryl A. Patchin
 Robert DiTomaso

DATE 9-15-00

Name Age 43 Date of Birth Sex F

Birthplace Philadelphia Race and Nationality African American

Highest Grade Completed 4 year college grad Religion Baptist Source of income employment

Occupation Administrative Assistant Total # in household 2 Referred by Dr. K.B.

Primary medical diagnosis hypertension Date first diagnosed 3-00

Instructions: Please circle Y for "YES" or N for "No" after each question.

Note: HCP = Health Care Provider.

1. Are you under 25 years of age? Y (N)
2. Are you older than 65 years of age? Y (N)
3. ✓ Based on your racial background, would you be considered a minority? Y (N)
4. Are you employed at present? (Y) N
5. Did you graduate high school? (Y) N
6. Is reading a book, magazine, or newspaper difficult for you? Y (N)
7. Have you ever been in treatment or hospitalized for a mental health problem? Y (N)
8. Have you ever been diagnosed with a psychiatric disorder? Y (N)
9. Are you currently taking any medication for your nerves? Y (N)
10. Do you generally avoid health risk behaviors, such as smoking, alcohol, or drugs? (Y) N
11. Do you ever wish you were dead? Y (N)
12. Do you believe that others are trying to harm you in any way? Y (N)
13. Do you think there is a conspiracy? Y (N)
14. Are you feeling anxious and tense, in general? Y (N)
15. Are you feeling depressed? Y (N)
16. Do you get tired easily? Y (N)

17. __ Have you been getting more forgetful recently? Y ☒ N
18. __ Have you been getting confused? Y ☒ N
19. ☒ Do you have trouble remembering when to take your medication? ☒ ☒ N
20. __ Do you have the time available to obtain the treatment your HCP has recommended? ☒ N
21. __ Do you have any problems with transportation which may affect your ability to get treatment? Y ☒ N
22. __ Do you have the money to afford treatment that your HCP has recommended? ☒ N
23. __ Do you generally arrange your own appointments? ☒ N
24. __ Have you missed appointments for HCP visits in the past? Y ☒ N
25. __ Do you usually keep appointments? ☒ N
26. __ When your HCP refers you to another HCP, do you keep your appointments? ☒ N
27. __ Do you want to do what your HCP recommended? ☒ N
28. __ Are you confident that you can follow the directions given by your HCP? ☒ N
29. __ Do you usually take prescribed medications as recommended? ☒ N
30. __ Do you tend to stop treatment when your symptoms go away? Y ☒ N
31. __ Are you hopeful about your ability to improve your condition by changing your behavior? ☒ N
32. __ Do you believe that you can do anything to change your medical condition? ☒ N
33. __ Have you ever consciously decided not to do what your health care provider recommended? Y ☒ N
34. __ Have you used drugs or alcohol when it was specifically recommended that you do not do so? Y ☒ N
35. __ Are you self-conscious about your condition? Y ☒ N
36. __ Do you dislike how people treat you as a result of your condition? Y ☒ N
37. __ Do you prefer not to think about things which have to do with health and medical issues? Y ☒ N
38. __ Do you like to keep up to date about the latest medical news and treatments regarding your medical problem? ☒ N
39. ☒ Do you believe that even if you do everything the HCP recommends, you may still get sick? ☒ N
40. __ In uncertain times, do you usually expect the worst? Y ☒ N
41. __ Do you believe that you are likely to get worse no matter what you do? Y ☒ N

42. __Are you generally an optimist/hopeful about things? ☒ Y ☐ N
43. __Do you always tend to look on the bright side of things? ☒ Y ☐ N
44. __Does it seem as though you are in control enough to be comfortable with your treatment plan? ☒ Y ☐ N
45. __Does your situation seem hopeless? ☐ Y ☒ N
46. ✓Do you believe that it is your, and yours alone, responsibility to decide about your medical care? ☒ Y ☐ N
47. __Did you delay in seeking medical care even after you were not feeling good? ☐ Y ☒ N
48. ✓Do you believe that you must follow your HCP's advice 100% to bring about the best health outcome? ☐ Y ☒ N
49. __Would you say that someone else in your life is the main reason that you are unable to follow your HCP's advice? ☐ Y ☒ N
50. __Have you been avoiding activities you normally engage in because of your condition? ☐ Y ☒ N
51. __Have you been avoiding activities you normally engage in because of fear of worsening your condition? ☐ Y ☒ N
52. ✓Have you been diagnosed with a medical problem which may be long-term? ☐ Y ☒ N
53. ✓Do you believe that you have a chronic (on-going) medical problem? ☐ Y ☒ N
54. ✓Does your illness come and go? ☒ Y ☐ N
55. ✓Do you see your illness as short-term? ☒ Y ☐ N
56. ✓Do you think that your condition will be with you for life? ☐ Y ☒ N
57. __Are you able to lead a fairly normal life considering your health problems? ☒ Y ☐ N
58. ✓Do you believe that you are okay, healthwise, just as you are? ☒ Y ☒ N
59. __Do you have any physical discomfort or symptoms at all? ☐ Y ☒ N
60. __Do you have symptoms all the time? ☐ Y ☒ N
61. __Do you feel a lack of strength or energy? ☐ Y ☒ N
62. __Do you have frequent or on-going pain? ☐ Y ☒ N
63. __Is your condition stressful? ☐ Y ☒ N
64. __Do you believe that there was an unnecessary delay in diagnosing your condition? ☐ Y ☒ N
65. __Are you aware of any risks your condition contributes to your future health? ☒ Y ☐ N
66. ✓Are the possible complications of your condition major (as opposed to minor)? ☒ Y ☒ N

67. __ Has your condition caused any other medical complications? Y ☒ N
68. __ Do you believe that the long-term outlook for your health is positive? ☒ Y N
69. __ Do you experience any psychological or emotional discomfort from your condition? Y ☒ N
70. __ Do you believe your condition will improve without any action on your part? Y ☒ N
71. __ Do you believe that the HCP may be exaggerating the health risks to you if you don't follow the treatment plan? Y ☒ N
72. __ Are you angry/resentful about your condition? Y ☒ N
73. __ Are you frustrated with the limitations imposed on you by your health problems? Y ☒ N
74. ☒ Would you like to read or view educational material about your condition? ☒ Y N
75. __ Does your condition cause you to feel out of control? Y ☒ N
76. __ Are your symptoms changing in nature? Y ☒ N
77. __ Have your symptoms been getting worse over time? Y ☒ N
78. __ Do you do things which will prevent future health problems - things which are recommended by medical professionals? ☒ Y N
79. ☒ Has your physician recommended any changes in your habits related to your health? ☒ Y ☒ N
80. __ Do you believe the HCPs recommendations will be helpful to you? ☒ Y N
81. __ Do you believe the recommendations are worth the trouble to carry out? ☒ Y N
82. __ Do you have more than one important medical problem? Y ☒ N
83. __ Do you have more than one long-term health problem, which you do not consider important? Y ☒ N
84. __ Do you have other medical/health problems which you believe are more important to treat? Y ☒ N
85. __ Does the idea of adding another treatment/medication to your current regimen seem like too much? Y ☒ N
86. __ Are you fearful of death as a result of your condition? Y ☒ N
87. __ Are you impatient with the rate of progress you have made in getting better? Y ☒ N
88. ☒ Do you believe that if your health has not changed due to your condition, it is likely to remain the same? ☒ Y ☒ N
89. __ Does your condition seem to be harmless? Y ☒ N
90. __ Does your medical condition run in your family? Y ☒ N
91. __ Are you confident that you will recover fully? ☒ Y N

92. ✓ Have you known anyone in a similar situation? ☒ Y ☐ N
93. ✓ Do you have ideas about what might be done to improve your health condition? ☒ Y ☐ N
94. Do you believe that your condition has been misdiagnosed? ☐ Y ☒ N
95. Are you withholding any information about your condition from your HCP? ☐ Y ☒ N
96. Have there been any complications resulting from past failure on your part to follow your HCP's advice? ☐ Y ☒ N
97. Are you worried about your health, in general? ☐ Y ☒ N
98. Are you hopeful about being able to control your condition? ☒ Y ☐ N
99. Are you worried about your condition? ☐ Y ☒ N
100. Do you believe that your condition is a serious medical problem? ☒ Y ☐ N
101. ✓ Do you believe that any medication recommended by the HCP will be helpful to you? ☒ Y ☐ N
102. ✓ Would you like more information about your condition? ☒ Y ☐ N
103. Have you learned much on your own about your condition? ☒ Y ☐ N
104. Do you believe that physicians have correctly diagnosed your condition? ☒ Y ☐ N
105. ✓ Do you believe that you are medically ill? ☐ Y ☒ N
106. ✓ Do you know what causes this illness? ☐ Y ☒ N
107. Do you have an idea of why you have the condition that has been diagnosed? ☒ Y ☐ N
108. Do you have some idea of what will make you better? ☒ Y ☐ N
109. ✓ Do you feel vulnerable to serious consequences to your health from your condition? ☒ Y ☒ N
110. Is your condition disruptive to your life? Does it cause inconvenience or difficulty? ☐ Y ☒ N
111. ✓ Is your condition a threat to your well-being? ☒ Y ☐ N
112. ✓ Do you believe there is an immediate risk to your health because of your condition? ☐ Y ☒ N
113. ✓ Do you believe there is a long-term risk to your health because of your condition? ☐ Y ☒ N
114. Does your condition affect your daily routine? ☐ Y ☒ N
115. Have you currently been prescribed any medication by your physician for a medical condition? ☐ Y ☒ N
116. Did you fill your prescription? ☐ Y ☒ N
117. Are you taking this medication? ☐ Y ☒ N

118. ✓ Are you putting off beginning the treatment? Y ☒ N
119. ___ Did you only take a portion of the medication? Y ☒ N
120. ___ Did you decide not to take the medication yet? Y ☒ N
121. ___ Are you able to use the treatment in the way it was prescribed? Y ☒ N
122. ___ Is there something about your treatment that you don't like? Y ☒ N
123. ___ Are you worried about certain side effects you might get from this treatment? Y ☒ N
124. ___ Do you have side effects from your medicine? Y ☒ N
125. ___ Are any side effects intolerable or very unpleasant for you? Y ☒ N
126. ___ Are side effects you have experienced from the treatment a large part of your decision about not following your HCP's recommendations? Y ☒ N
127. ___ Do you worry that the drugs could build up in your system and cause damage over time? Y ☒ N
128. ___ Are you still in the process of deciding what to do about your HCP's treatment plan? Y ☒ N
129. ___ Are you absolutely 100% clear about the instructions for your treatment? ☒ Y N
130. ✓ Would you like more information about your treatment? ☒ Y N
131. ___ Do you believe there are benefits to the treatment? ☒ Y N
132. ___ Do you have confidence regarding the value of the treatment in controlling/managing your condition? ☒ Y N
133. ___ Do you believe that you are taking too many medications? Y ☒ N
134. ___ Are you fed up with the number of medications you are currently taking? Y ☒ N
135. ___ Do you not want to add any more medications to those you are already taking for other conditions? Y ☒ N
136. ___ Are you taking more than one dose a day for each medication you take? Y ☒ N
137. ___ Have you been taking this treatment for longer than you want to? Y ☒ N
138. ___ Is the length of the treatment too long? Y ☒ N
139. ___ Is your medication hard to swallow? Y ☒ N
140. ___ Is your medication awkward for you to use in any way? Y ☒ N
141. ___ Do you have trouble reading the labels on your medication bottle? Y ☒ N
142. ✓ Are you able to perform the treatment regimen your HCP has recommended? ~~☒~~ ☒ N

165. __Are you angry/resentful about the treatment that you are supposed to follow? Y ☒ N
166. __Do you believe that the treatment plan is too strict? Y ☒ N
167. __Are you afraid of possible side effects based on your past experience with other treatments? Y ☒ N
168. __Do you often forget to take your medication? Y ☒ N
169. __Have you already, or do you plan to, try something other than what your HCP recommended to treat your condition? Y ☒ N
170. __Have you prescribed any treatment for yourself? Y ☒ N
171. __Are you taking medication which has not been prescribed for you? Y ☒ N
172. __Are you creating your own treatment regimen to "fill in the gaps" of what you believe your HCP is overlooking? Y ☒ N
173. __Are you substituting your own program for the recommended treatment regimen? Y ☒ N
174. ☒ Would you like to read or view educational material about your treatment? ☒ Y ☐ N
175. __Do you know what to do regarding your treatment? ☒ Y ☐ N
176. __Do you have a problem understanding the instructions about your treatment? Y ☒ N
177. __Is the treatment the HCP has recommended too complicated for you to follow? Y ☒ N
178. __Have you not started treatment programs in the past that you were told to by a HCP? Y ☒ N
179. ☒ Do you follow the treatment instructions 100%? ☒ Y ☐ N
180. __Do you tend to discontinue treatment earlier than you are supposed to? Y ☒ N
181. __Have you ever stopped taking your treatment because you felt better? Y ☒ N
182. ☒ Do you believe that the treatment will prevent long-term health damage? ☒ Y ☒ N
183. __Are you concerned about becoming dependent on your medication? Y ☒ N
184. __Do you believe the treatment will stop working if your system gets too much of it? Y ☒ N
185. __Are you concerned that you will develop an immunity to your medication? Y ☒ N
186. __Do you prefer "natural" or home remedies to standard prescribed medicine? Y ☒ N
187. __Are you embarrassed about your treatment? Y ☒ N
188. __Do you believe that people are weak or dependent if they have to take medication all the time? Y ☒ N
189. __Do you believe the treatment does you more harm than good? Y ☒ N

190. __ Do you believe that your HCP selected the best medicine/treatment for you? ☒ Y ☐ N
191. __ Have the benefits of the treatment been well explained to you? ☒ Y ☐ N
192. __ Are you withholding information about your treatment management from your HCP? ☐ Y ☒ N
193. __ Have you had any negative experiences with a similar treatment? ☐ Y ☒ N
194. __ Has someone you know suffered a very negative reaction to the same treatment that you have been prescribed? ☐ Y ☒ N
195. __ Have you had any positive experiences with a similar treatment? ☐ Y ☒ N
196. __ Have you had trouble taking medicine for any reason in the past? ☐ Y ☒ N
197. ☒ Does the treatment program fit with your lifestyle? ☒ Y ☐ N
198. __ Are you upset by the cost of your treatment? ☐ Y ☒ N
199. __ Are you confident in your ability to continue the treatment as long as you need to? ☒ Y ☐ N
200. __ Are you willing to consider a different medication/treatment from the one you are currently rejecting? ☒ Y ☐ N
201. ☒ Is there more than one reason that you are following your treatment plan? ☐ Y ☒ N
202. __ Is your behavior regarding your treatment your way of trying to avoid the whole issue of your medical situation? ☐ Y ☒ N
203. __ Is your behavior regarding your treatment your way of protesting against the treatment? ☐ Y ☒ N
204. __ Does it seem as though you are going along with the treatment to satisfy others? ☐ Y ☒ N
205. __ Do you like to consult with pharmacists about your medication? ☐ Y ☒ N
206. __ Have you talked to your pharmacist for advice and information about your treatment? ☐ Y ☒ N
207. __ Have you prescribed any treatment for yourself that your HCP is unaware of? ☐ Y ☒ N
208. __ Was your HCP's recommendation for your treatment convincing to you? ☒ Y ☐ N
209. ☒ Was your HCP's recommendation for your treatment strong? ☒ Y ☒ N
210. __ Does your HCP seem concerned and serious about your need to treat this condition? ☒ Y ☐ N
211. __ Were you given adequate information from your HCP regarding your treatment? ☒ Y ☐ N
212. __ Did your HCP give you as much information as you want about your condition? ☒ Y ☐ N
213. __ Does your HCP seem impatient with you? ☐ Y ☒ N
214. __ Do you believe that your HCP cares about your welfare? ☒ Y ☐ N
215. __ Do you respect your HCPs too much to question them? ☐ Y ☒ N

216. __Do you believe that your freedom of choice about your treatment is being denied? Y ☒ N
217. __Do you believe that you were fully informed about the treatment that was recommended to you? ☒ Y N
218. __Do you believe that you were given misleading information about the treatment you have received? Y ☒ N
219. __Do you believe that your medical care has not been managed properly? Y ☒ N
220. __Does your HCP tend to get feedback from you about any problems you are having with your treatment? ☒ Y N
221. ✓ __Were you told by your HCP what possible unpleasant side effects you might expect to experience? ☒ Y N
222. __Were you told by your HCP what results that the treatment was expected to bring about? ☒ Y N
223. __Were you told by your HCP why he/she was prescribing the treatment? ☒ Y N
224. __Are you treated with respect and dignity by your HCP? ☒ Y N
225. __Do you agree with the opinions of the HCP? ☒ Y N
226. __Do you remember the details your doctor told you about your medical condition? ☒ Y N
227. __Are you comfortable asking your HCP questions? ☒ Y N
228. __Are you satisfied with your relationship with your HCP? ☒ Y N
229. __Do you trust your HCP? ☒ Y N
230. __Do you like your HCP? ☒ Y N
231. __Do you get very nervous when you meet with your HCP? Y ☒ N
232. __Do you believe that the HCP listens and understands you? ☒ Y N
233. __Are your questions answered in a way that you understand? ☒ Y N
234. __Do you believe that your HCP is as knowledgeable as he/she can be? ☒ Y N
235. __Does it seem that your HCP does not know enough about your medical condition? Y ☒ N
236. __Does it seem that you know more about your medical condition than your HCP? Y ☒ N
237. __Do you get to spend enough time with your HCP during an office visit? ☒ Y N
238. __Would something make your visits with your HCP better or more worthwhile for you? Y ☒ N
239. __Would you like a family member or a friend to join you in talking with the HCP? Y ☒ N
240. __Were you included in the decisions made about your treatment? ☒ Y N
241. ✓ __Would you like more equality with the medical care team? ☒ Y N

242. __ Would it be helpful to include you in the decisions made about your treatment? ☒ Y ☐ N
243. ☒ Would you like to be included and participate more in the medical team decisions about your care? ☒ Y ☐ N
244. __ Would you like to negotiate some compromise or changes in your treatment plan with your HCP? ☐ Y ☒ N
245. __ Do you believe that your HCP can come up with a better treatment than the one you have been given? ☐ Y ☒ N
246. __ Is your HCP not sensitive to the way the side effects of your treatment affect you? ☒ Y ☐ N
247. __ Is there disagreement between the HCPs regarding your diagnosis or your treatment? ☐ Y ☒ N
248. __ Do you believe that you need telephone or written reminders to help you follow your HCPs advice? ☐ Y ☒ N
249. __ Would you like more follow-up visits with your HCP than you currently are being scheduled for? ☐ Y ☒ N
250. __ Do you see the same HCP each time you come for a medical visit? ☒ Y ☐ N
251. __ Do you believe that more supervision by the medical team would be helpful? ☐ Y ☒ N
252. __ When you need an appointment, do you find you have to wait too long to get one? ☐ Y ☒ N
253. __ Once you are at your HCP's office for an appointment, do you believe that you have to wait too long in the waiting room? ☐ Y ☒ N
254. __ When you visit with your HCP, is the wait in the examination room too long? ☐ Y ☒ N
255. __ Are the professional staff attitudes in the HCP's office helpful and supportive? ☒ Y ☐ N
256. __ Are you satisfied with the staff at your HCP's office? ☒ Y ☐ N
257. __ Are you satisfied with the way that the staff treats you when you call or visit the office? ☒ Y ☐ N
258. __ Are you satisfied with the medical facility where you see your HCP? ☒ Y ☐ N
259. __ Do you have a particular pharmacist that you can talk to? ☒ Y ☐ N
260. __ Are you likely to seek out another HCP for another opinion about your condition? ☐ Y ☒ N
261. __ Are you likely to seek out another HCP for another opinion about your treatment? ☐ Y ☒ N
262. __ Do you resent being referred out to another HCP? ☒ Y ☐ N
263. __ Has your HCP given you reassurance that your condition can be managed with proper care? ☒ Y ☐ N
264. __ Is there someone in your community who gives you medical advice? ☐ Y ☒ N
265. __ Do you go to a folk healer or non-physician for advice about your health? ☐ Y ☒ N

266. ✓ Does anyone you know well have the same medical condition as you? ☒ Y ☐ N
267. ✓ Do others you know of with the same condition have the same treatment that was recommended to you? ☒ Y ☐ N
268. __ Do people around you agree with what the HCP told you about your illness? ☒ Y ☐ N
269. __ Do people around you agree with what the HCP prescribed as treatment for your illness? ☒ Y ☐ N
270. __ Did anyone frighten you about your health problem? ☐ Y ☒ N
271. __ Did anyone frighten you about the treatment which was prescribed? ☐ Y ☒ N
272. __ Do those you live with want you to follow your HCP's advice? ☒ Y ☐ N
273. __ Are others around you pressuring you not to follow your HCP's recommendations? ☐ Y ☒ N
274. __ Is your family going through any current crises or serious troubles? ☐ Y ☒ N
275. __ When it comes to your medical condition, are people at home helpful and supportive of you? ☒ Y ☐ N
276. __ Are people in your family helping you with the treatment? ☒ Y ☐ N
277. ✓ Is there someone else who could help you to follow your HCP's advice? ☒ X ☒ N

Appendix E

Relaxation Induction (9/22/00)

- Therapist All right. Well then, let me have you close your eyes for a minute. And what I would like you to do is take a few deep breaths. Breathe in, (pause) and then think “relax” as you slowly breathe out.
- Patient I’ll think about taking a day off.
- Therapist Yeah. That’s a fine thing to think about. I’d like you to imagine the space between the bottom of your feet and the floor, which is a very interesting space. It makes you smile, huh?
- Patient Yeah.
- Therapist But there are little molecules and there is a space there that we don’t think about. And then, however you want to imagine tension, some people imagine it as a harsh color or a feeling, or however you imagine it, just imagine it floating out your feet, out the bottom of your feet, and however you like to imagine relaxation, just imagine that relaxation filling your feet. So that you might notice a little difference now, as the muscles in your feet soften and loosen, and then slowly move up to your ankles and let the tension, tightness leave, float down and out the bottom of your feet, and let the relaxation float in, as the ankle muscles just soften and loosen and relax. Very slowly move up to your calves. Let the tightness and tension just float down and out, and let the relaxation move in as your calf muscles soften and loosen and relax. And then, very slowly move up to your knees, (horns blare) and let your knees relax and any sounds that you hear you can focus on the sounds outside the window, and once you have identified them they are safe and familiar and you can let them fade into the background, and they can become even more relaxing because of their safety and familiarity. We hear the traffic, and then it fades as you focus again on your knees relaxing. And you can feel yourself fully supported by that chair that you are sitting in. So you don’t need to hold tension in your thighs, your lower back, or your pelvic area. Just let it go. And if there is anything you want to say while you are relaxing, you can feel free to talk. Or if you’d just rather sit quietly and let your muscles loosen and soften and let the relaxation spread up in to your stomach as you breathe regularly and easily, and your stomach muscles soften, and the relaxation just swirls around your stomach and spreads up into your chest. Your chest muscles relax. And breathing is easy, and relaxation spreads up into your shoulders and down your arms into your hands and fingers. And you might have a warm sensation as the relaxation spreads through your body, or you might have a tingling sensation. I don’t know, but whatever you feel just enjoy it, as the relaxation spreads up your neck and into your

forehead and scalp. And you might want to imagine gentle little fingers massaging your forehead as though muscles just smooth out and then the relaxation washes over your face, your eyes, your nose, your cheeks, your jaw, mouth, relaxing further and further, and if there is any area or areas in your body that aren't as relaxed as the rest, just go there in your mind and breathe into it. Imagine sending a refreshing, healing breath into that area or those areas, until your whole body feels calm and tranquil and relaxed, from head to toe and you might want to imagine yourself on a vacation, or walking down the street on a beautiful day like today, with the sun shining, a crisp cool air just blowing all around. Imagine yourself so relaxed, just as you would like to see yourself, healthy inside and out. It is a good feeling, a feeling that you will learn to bring back whenever you need it, whenever you want. All you will have to do is give yourself a signal, and your body will know, and your mind will know, just what to do to bring back this feeling. And that signal could be touching your thumb to your forefinger. Why don't you try that? Just press your thumb to your forefinger right now, and feel the little pressure and that could be your signal to yourself, to take a few deep breaths and let your muscles all soften and loosen, and go into a state of calm and serenity. It's a good feeling. And the more you practice, the easier it will get, and the deeper you will go, and the deeper you go, the better you will feel and you will know that it is very safe because your brain still works and you hear things and anything that needs your attention, you will be able to just tell yourself that you are refreshed and alert and wide awake and you will be. So why don't you try that now? I'd like you to picture the numbers 1 through 3. Then just open your eyes and tell yourself that you are refreshed and alert and wide awake. Feeling good?

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Appendix F

September 22, 2000

Dear Dr. _____

Thank you for the referral of your patient, - - - (D.O.B. -----). She is most pleasant and cooperative and I look forward to participating in her treatment. According to her self-report, her recorded blood pressure readings from 2/25/00 to 9/22/00, her medical records, and your report, she is suffering from hypertension. She appears to have no other diagnosed medical complaints or problems. The major focus of clinical attention for which you referred - - - is to determine and to treat any maladaptive health behaviors, which significantly affect the course and treatment of her hypertension and additionally, to support and enhance those health behaviors, skills, and attitudes that are adaptive.

In order to assess the causes of - - -'s difficulty with adherence to the medical regimen which you have prescribed (i.e., low sodium diet and exercise), she was seen by me on 9/15/00. A comprehensive psychosocial evaluation and a health behavior profiling questionnaire (HBPQ) were administered. The Psychosocial Intake Evaluation, completed on 9/15/00, and the Health Behavior Profiling Questionnaire (HBPQ), administered to the patient on 9/15/00 and reviewed with the patient on 9/22/00, revealed the following issues which may significantly impact upon - - -'s current health-related status:

1. **Diet** - The patient reports that she has educated herself and has subsequently been following a low sodium dietary regimen.

2. **Exercise** - The patient reports that she had developed her own exercise regimen, which involves walking, the treadmill, and leg lifts. She found that when she was able to execute this regimen for about one hour at least three times per week (per your recommendation), she was able to control her hypertension. Her self-monitoring records verify this. From April, 2000 until August 1, 2000, her pressure remained predominantly in the normal range, with the highest diastolic reading at that time being 90. Subsequently, her blood pressure began escalating again, effective August 5, 2000, reaching a high of 173/120 on September 22, 2000 (with this reading taken by a technician at _____).

- - - reports that her long work hours and extensive care-taking responsibilities for her ailing mother combine to create fatigue and lack of time to perform her exercise regimen.

3. **Medication** - The patient is very resistant to beginning a medication regimen and therefore, is very motivated at present to seek treatment which provided her with alternatives (i.e., counseling to assist with exercise, stress management techniques, etc.) - - - understands that exercise and diet may not be sufficient to control her blood pressure, but her resistance to anti-hypersensitive medication is rather strong and is based on a belief that, once begun, a life - long dependency upon such medication would be created.

There are other factors which are pertinent to understanding the dynamics and issues involved in the patient's current status regarding her health.

- She is dependent (possibly somewhat counter-dependent) and pragmatic regarding her condition and treatment.
- The patient does not believe that her condition is chronic. Though she understands the potential consequences of uncontrolled hypertension, she does not seem to perceive any immediate or long-term risk to herself at present. She sees her health status as stable at present. In other words, she seems to be either in denial, ambivalent, or uninformed regarding her personal vulnerability and the severity of the health threat to her at the present time.
- The patient's sister is currently taking medication for hypertension, after having failed at controlling her blood pressure with diet and exercise.
- The patient wants information-sharing, inclusion, and participation in treatment decisions.
- The patient desires information in the form of written material regarding hypertension, its nature, and its treatment.

The following conclusions can be drawn from the above-noted information regarding the patient:

- The patient does not believe that she has the ability to perform the treatment regimen as recommended. Her adherence history indicates that she has not followed the treatment recommendations. She identifies the only obstacles to adherence to be fatigue and time.
- The patient is highly motivated at present to find a way to address her hypertension without the use of medication, although she acknowledges that this may not be possible.
- Her independence and pragmatism and her desire to collaborate with the medical team in decision-making can be utilized to promote compliance by working with the patient in a manner congruent with her characteristics and desires.

- The patient requires assistance from her treating physician in understanding the nature of anti-hypertensive medication, reassurance regarding same, and perhaps a mutual agreement regarding its utilization, should it be indicated, in her treatment regimen.

On 9/22/00, the patient concurred with the following treatment goals and plans:

Treatment Goal: To decrease and stabilize blood pressure.

Treatment Plans - Intervention Targets:

1. Stress management - relaxation techniques with guided imagery, etc.
2. Weekly blood pressure monitoring, at the minimum
3. Education regarding hypertension - provision of written information and discussion
4. Dietary monitoring - low sodium regimen
5. Problem-solving regarding fatigue and time obstacles/barriers to compliance
6. Dysfunctional beliefs regarding medication to be addressed

I will contact you this week in order to further discuss this report and to seek your feedback and input. Again, thank you for the opportunity to participate in this patient's treatment.

Sincerely,

Cheryl Patchin, M.Ed.

Appendix G

Educational Materials Provided to Patient

American Heart Association. (n.d.). First Heart Attack Risk Test (publication no. D3-D095A-5-97). Dallas, TX: Author. (Distributed by Bristol – Myers Squibb Company).

American Heart Association. (1994). What is heart disease? Dallas, TX: Author.

American Heart Association. (1999). Shaking your salt habit: Our guide to reducing sodium to lower your blood pressure [Booklet] (publication no. 50-1421 11-99 99 10 19 L). Dallas, TX: Author.

American Medical Association. (1982). How to relieve tension. In AMA Family Medical Guide. Random House, Inc. (provided by Stuart Pharmaceuticals).

American Medical Association. (1982). The essentials of a good exercise program. In AMA Family Medical Guide. Random House, Inc.

Krames Communications. (1997). Low-salt eating (publication no. 5429H). San Bruno, CA: Author.

Merck. (n.d.). Do you know your numbers? Understanding high blood pressure (booklet publication no. 001464 (1) – 02-COZ). Author.

Merck. (1997). Cholesterol highway (publication no. 974883-05-ZOC-EMP). Author.

Merck. (1997). What you should know about proper eating [Booklet] (publication no. 973931 (7)-04-MAN-HMO). USA: Author.

Merck. (1999). Hyzaar 100/25: Losartan Potassium – Hydrochlorothiazide tablets (publication no. 991666 (1)-06-COZ). Author.

Merck. (2000). High blood pressure: Working together for better heart health [Booklet] (publication no. 005698-HMS). USA: Author.

Nutrition Screening Initiative. (1995, December). Determine your nutritional health (publication no. A5944). Washington, DC: Author.

Parke-Davis. (1992). Eating right for a healthier heart (publication no. PD-56-PD-8222-A1 (013) 209489). Morris Plains, NJ: Warner-Lambert Company.

Searle. (1998, September). Factors that raise the risk of cardiovascular disease in people with high blood pressure (publication no. C98CV158200). Chicago, IL: Author.

Searle. (1998, September). Healthy lifestyle changes for people with high blood pressure (publication no. C98CV158180). Chicago, IL: Author.

Searle: (1998, September). Risks of uncontrolled high blood pressure (publication no. C98CV158190). Chicago, IL: Author.

StayWell Company. (1999). Low-sodium eating (publication no. 4217). San Bruno, CA: Author.

StayWell Company. (1999). Reading food labels to limit salt (publication no. 5428). San Bruno, CA: Author.

StayWell Company. (1999). Taking your pulse (publication no. 5721). San Bruno, CA: Author.

StayWell Company. (1999). Watching the salt when you're not cooking (publication no. 5430). San Bruno, CA: Author.

Wyeth-Ayerst Laboratories. (1991). Fast food for healthy hearts (publication no. IF-423R3). Author. (Adapted from The American Diabetes Association/The American Dietetic Association. (1984). The American Diabetes Association/The American Dietetic Association Family Cookbook, Vol 2, rev. ed. (pp.367-374). Englewood Cliffs, NJ: Prentice-Hall, Inc.

Note. The StayWell Company is currently known as Krames. Patient information sheets can be ordered by contacting the company and opening an account at (800) 333-3032.

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Appendix H

PHYSICIAN REPORT

Patient _____

Date of Birth _____

Date of Referral 9/15/00Presenting Problem: Noncompliance with Treatment DSM IV: V-15.81Chronic Disorder (referral-related): Hypertension

Please provide your rating of the patient's compliance level at the time of initial referral:
(Please circle one).

① _____ 2 _____ 3 _____ 4 _____ 5 _____
poor fair good very good excellent

Current compliance is estimated to be:

1 _____ 2 _____ 3 _____ ④ _____ 5 _____
poor fair good very good excellent

Patient has increased compliance:

1 _____ 2 _____ ③ _____ 4 _____
not at all some much very much

Patient's medical condition has improved:

1 _____ 2 _____ ③ _____ 4 _____
not at all some much very much

Physiological measures indicating health status at time of referral (related to disorder at issue)... [e.g., blood pressure, weight, etc.]: 140/91 effective 9/15/00.
173/120 effective 9/22/00.

Physiological measure indicating health status at present: Activity diary and blood pressure monitoring.

Comments: Compliance with recommendations has resulted in normal range of blood pressure readings.

Physician _____

Date Jan 3, 2001